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GROUP ASPIRATIONS AND GROUP COPING BEHAVIOR.

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THIS RESEARCH PROJECT WAS CONCERNED WITH THE EFFECTS OF CERTAIN INTERNAL AND EXTERNAL CONDITIONS UPON THE SELECTION OF A GROUP'S LEVEL OF ASPIRATION AND THE EFFECTS OF THESE CONDITIONS ON MEMBERS' COPING BEHAVIOR. SEVEN EXPERIMENTS WERE DESIGNED WHICH UTILIZED MALE HIGH SCHOOL STUDENTS OF SUBURBAN SCHOOLS AS SUBJECTS. RESULTS OBTAINED FROM THE VARIOUS EXPERIMENTS INDICATED THAT THE LEVEL OF ASPIRATION THEORY, ORIGINALLY DEVELOPED AS AN EXPLANATION OF GOAL SETTINGS BY INDIVIDUALS, WAS USEFUL IN EXAMINING THE NATURE OF GROUP ASPIRATIONS. IT WAS ALSO INDICATED THAT ADDITIONS TO THE ASPIRATION THEORY DEVELOP WHEN GROUP GOALS ARE INVOLVED. FINDINGS ARE STATED AS--(1) THE ORIGINS OF GROUP ASPIRATIONS AND SUBSEQUENT CHANGES IN THEM ARE SIMILAR TO THOSE FOR PERSONAL ASPIRATIONS, (2) MEMBERS DISTORT THEIR EXPECTATIONS OF THEIR GROUP'S FUTURE PERFORMANCE WHEN INFLUENCED TO DO SO BY EXTERNAL AGENTS SO THAT THEY SELECT UNDULY HIGH OR LOW GROUP ASPIRATIONS, (3) A MEMBER'S EVALUATION OF HIS GROUP'S PERFORMANCE IS A FUNCTION OF THE DISCREPANCY BETWEEN PERFORMANCE OF THE GROUP AND THE LEVEL OF ASPIRATION OF THAT GROUP, (4) MEMBERS OF A GROUP ENGAGE IN COPING BEHAVIOR INTENDED TO AVOID POTENTIAL NEGATIVE OR POSITIVE CONSEQUENCES FOLLOWING A POOR OR GOOD PERFORMANCE, AND (5) A MEMBER DEVELOPS A MOTIVE FOR HIS GROUP TO ACHIEVE SUCCESS (OR TO AVOID FAILURE) WHICH INFLUENCES THE DIRECTION AND VIGOR OF HIS GROUP BEHAVIOR. (WB)

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GROUP ASPIRATIONS AND GROUP COPING BEHAVIOR

Cooperative Research Project No. 1143

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Preface

Groups seldom choose new goals or abandon old ones. Because of this, group goals cannot be efficiently studied in their natural habitat--the classroom or the conference table. It is more feasible to create them and allow them to change the experimental laboratory. This report describes a series of experiments in which groups of high school boys were constrained to choose goals and allowed to change the goals a number of times if they wished. We have learned many things about the aspirations of groups, yet the list of unanswered queries grows faster than our knowledge.

The faculty and students of many schools helped us in these studies and we wish to acknowledge here our warm appreciation for their assistance.

The schools:

Central High School, Pontiac, Michigan
Cherry Hill High School, Dearborn Township, Michigan
Garden City High School, Garden City, Michigan
Haston High School, Dearborn Township, Michigan
Highland Park High School, Highland Park, Michigan
Jackson High School, Jackson, Michigan
Kettering High School, Waterford Township, Michigan
Kimball High School, Royal Oak, Michigan
Riverside High School, Royal Oak, Michigan
Taylor Center High School, Dearborn Township, Michigan
Waterford Township High School, Waterford Township, Michigan

Persons who assisted in the administration of experiments or in the analysis of data are named at appropriate places in this report.

A.Z.
H.M.

December 1, 1964

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Chapter One

Group Aspirations and Group Coping Behavior

Purposes and Results

Alvin Zander

When studying group behavior, social scientists commonly make assumptions about the nature of group goals and the origins of these goals. Teachers and other social practitioners moreover take it for granted that groups have purposes which affect the methods to be used in group work. Considering how often assumptions in social research and practice are based upon beliefs about group goals, it is remarkable that little study has been devoted to the sources and consequences of aspirations in groups.

In our achievement-oriented society, desire for a more complete knowledge of group goals will most likely be aroused by a need to increase the productivity of groups. The study of group goals can help, however, toward understanding other aspects of group life. For example, a group's goald influences the direction and vigor of members' behavior. Members' agreement on a goal assists them in predicting what one another will do, and think it important to do. The goal stimulates a common concern, which facilitates coordination of effort within the group. A group goal gives members a criterion to use in evaluating the performance of their group: if the criterion is achieved the performance is good, otherwise it is bad.

We limit our attention to a particular type of goal called a group level of aspiration and conceive of this aspiration in terms analogous to those employed in explaining the aspirations of a solo person. More specifically, we use concepts and assumptions from aspiration theory (Lewin, Festinger, Dembo, and Sears, 1944; Atkinson, 1957) as a "program" to suggest what we might expect in examining the origins and consequences of group aspirations. Are conditions affecting the level of a group's aspiration similar to those affecting an individual's aspiration? Do members vary in their desire to have their group achieve success, in their fear of group failure? How do members appraise their own personal performance when their group does poorly or does well? How do they react to an unexpected level of group performance?

Each of the chapters in this report presents a laboratory experiment directed toward questions like these. The participants were high school boys in suburban schools. They worked in teams of three or four members, on tasks in which there was no division of labor, all members being required to do exactly the same things at the same moment, often in unison. The members decided on the level they expected the group to attain on the next trial immediately after learning their group's score on the previous trial. In all experiments each member was required privately to reach and record his decision concerning the performance he expected his team to attain on its next trial. This decision is called the _member's aspiration for his group_. Once the members had made their private decisions, they publicly discussed their beliefs and arrived at a unanimous group decision. This is the aspiration of the group for the group, or more simply, the _group aspiration_.

The remainder of this chapter contains an integrated summary and interpretation of results thus far from our experiments on group aspirations. The sources of a group's aspiration are first described. Then, the nature of member motivation and of a member's desire to have his group succeed are noted. The influence of agents outside the group are next considered and the discussion thereafter turns to conditions creating favorable or unfavorable evaluation of the group and self as a member. Finally, we discuss the reactions of members to a successful or unsuccessful group performance. Research by others relevant to these separate topics will be noted in later chapters.

Determinants of Group Aspirations

Suppose each member is asked to state his aspiration for his group in its next effort on a particular task. When choosing this goal level he may be influenced by a number of considerations including performance of the unit in the past, his own part in this performance, demands of other social agents, properties of the group, or the satisfaction to be attained for himself and colleagues from achievement of various levels. Although a member, when stating his aspiration for his group, is in some degree describing what he (as a part of the group) desires to achieve, it will be simpler for the moment to assume that the group is an entity whose fate is of interest to the respondent regardless of his contribution to its score.

Our basic assumption is that the level of achievement a member desires his group to achieve is the one among a set of alternatives which has the largest resultant motivation for him. The resultant motivation is a multiplicative function of the strength of the member's motive, the perceived probability that successful completion of a given task by the group will have as a consequence the attainment of an incentive, and the value of that incentive. The underscored terms in this paragraph require definition.

A motive is a disposition to strive for a certain kind of satisfaction. In this instance we are concerned with a motive which is unique to membership in a group faced with a group task. It is each member's desire for achievement of success by his group, designated as desire for group achievement (DGach). The perceived probability is the likelihood that the group can successfully achieve each of a number of alternative levels. The incentive is the relative attractiveness of successfully attaining a specific level of performance. Each of the possible levels of achievement has a given degree of difficulty such that easier tasks have greater probability of successful accomplishment and harder tasks less probability. The more difficult the task, moreover, the greater is the attractiveness (incentive value) of successfully attaining that goal. Achievement of a difficult goal is more satisfying than achievement of an easy goal and failure to attain a difficult goal is less dissatisfying than failure to attain an easy goal.

If the DGach of each member is held constant, the aspiration he prefers for his group is that one with the greatest probability of success and the greatest attractiveness of success. Let us first allow no variation in DGach among members and examine whether perceived probability and attractiveness of attaining a particular group score influence a member's aspiration for his group.

Several types of evidence suggest that changes in the perceived probability of accomplishing different task levels generate changes in a members' aspirations for his group. In every one of the experiments described in this report the members of a group engaged in a joint task for a series of trials and either attained a previously set level of aspiration or failed to do so. When the effort was successful on a given trial, the member's raised their aspiration for the group above its previous level, apparently because they believed that the group could perform at least that well again. When the group effort was unsuccessful, the member's lowered their aspiration below its prior level, presumably because they believed that the group could not perform as it had previously aspired to do. The aspiration-setting behavior of members is summarized in the brief rule, "succeed, raise; fail, lower." The reliability of support for this rule is consistently very strong. Past performance of the group, in short, is used by members to arrive at a prediction of its future performance. Even a group of observers who were asked to watch a team of performers trial after trial and to make predictions about the next score of the performing group before each trial, followed the rule very closely (Chapter 4).

Adherence to the "succeed, raise" part of the rule is stronger than to the "fail, lower" part. That is, members more often raise their aspirations for the group after a successful group performance than they lower them after a failing group performance. (Following a poor performance it is not uncommon for groups to attempt the same level over again.) The greater frequency of "succeed, raise" is noted among groups in Chapters 2, 4 and 8 and in a study not described in this report by Dustin (1963). Moving upward in the scale of difficulty and aspiring to succeed at ever more difficult levels is apparently more attractive than moving downward in the scale of difficulty, probably because group success (or even failure) at a higher level is more satisfying than at a lower level.

The amount of movement upward (i.e. the number of steps in the scale of difficulty), moreover, is greater following a successful group performance than the amount of movement downward after a failing group performance (Chapters 2, 4 and 8). Thus, a given level of performance does in fact appear to be weighed as a potential group aspiration not only in terms of its probability of attainment but also in terms of its attractiveness of attainment. We should mention that the observers noted above chose aspirations for the group which followed the "succeed, raise" part of the rule more closely than did the performers (Chapter 4). Were they less realistic than the performers or were they more concerned that the performers reach a high level of achievement than the latter themselves? From the present data we cannot say.

Other findings provide support for the assumption that more difficult tasks are more attractive. In the experiment described in Chapter 8, groups were assigned either a difficult group task for their first trial or an easy one. Thereafter the members were free to choose their own level of difficulty via a group discussion and decision. Members were more favorable toward their group and more positive toward the task the greater the average difficulty of the tasks chosen by the group and regardless of whether their group succeeded or failed during the experimental session. In the study reported in Chapter 6, groups worked on a given task for a series of trials and were given no information whatsoever about their score. Here, members raised their aspirations consistently trial after trial and chose higher levels of difficulty in a fashion closely duplicating the choices of members in successful groups. No news about the group's performance apparently is taken to be good news, and more difficult levels are more valued.

The results described thus far indicate that variations in a group's performance are accompanied by changes in aspiration and that perceptions of the probability of success and of the attractiveness of success appear to vary with changes in the scores.

Experimental variation in incentives had little effect on aspiration levels. In Chapter 3, for example, an attempt was made to heighten the strength of incentives over the entire range of tasks in one condition and to weaken the strength of incentives in the other condition, by telling subjects in the one case that they were eligible for a prize if the group achieves a good score, and in the other case omitting mention of a potential prize. What were assumed to be the stronger incentives did not appear to influence aspirations in ways different from the weaker incentives. Other variables examined with a similar intent were: (a) the validity of the group's score on a test of competence (Dustin, 1963), (b) the probability of certain consequences for a given score (Chapter 8), and (c) the surveillance of one's aspiration choice by others (Chapter 4). None of these created any differences in the aspirations preferred for a group. According to our theoretical model, none of them should have had an effect since these variables serve to heighten or weaken the resultant motivation of all alternative levels simultaneously and proportionately.

The incentives for attainment of various levels are determined to some degree by agents outside the group and ordinarily are greater for the attainment of more difficult tasks and smaller for the attainment of easier tasks. Offering a reward to the group for attaining a particular score, for example, or a punishment for failing to do so, affected the aspirations members chose for their group more than requesting a particular level of performance without offering such sanctions (Chapter 3). More exactly, members who were offered sanctions set their group aspirations closer to the scores requested of them than those who were offered no sanctions. Because the score each group earned was held constant in this study, as was the score they were requested to achieve, the presence of external incentives appears to be the major influence upon the member's level of aspiration for his group. External influences on aspirations will be discussed further, after we have considered the nature of the motive for achievement of group success.

Member's Desire for Group Achievement (DGach)

Desire for group achievement is defined as an individual motive to strive for the success of a group in which one is a member. It is generated, we assume, by an awareness that the group's performance is being measured against a standard of excellence. Although it is a situationally aroused motive rather than an enduring personality characteristic, we conceive of DGach as an analogue of the concept Nach, the personal need for achievement, which is ordinarily taken to be a lasting personality disposition. The strength of a motive, whether it be Nach or DGach, is a multiplier of the resultant probability times incentive and therefore has an effect upon the motivation toward each of the possible levels of group aspiration.

Atkinson (1957) has observed that individuals with higher Nach tend to choose personal levels of aspiration in the intermediate range of difficulty while those with lower Nach choose aspirations which are either very easy or very difficult. Increase in the strength of the motive, then, increases the tendency to choose tasks in the intermediate range of difficulty. Because DGach is conceived as an analogue of Nach, we expect variations in DGach to have parallel consequences for group aspirations. That is, we expect members with higher DGach to prefer group aspirations in the middle range of difficulty more than members with less DGach. The problem then is to generate differences in DGach.

It seems reasonable that a member who has a greater commitment to his group or a greater responsibility for its outcome should develop a stronger desire for the achievement of success by the group. The results of a variety of studies on group motives suggest that certain group conditions stimulate members' to greater productivity or exertion of energy for the group (Cartwright and Zander, Chapters 19 and 25). Following these studies, we sought to arouse differential degrees of DGach by experimentally varying relevant group properties. In one experiment (Chapter 6) the aspirations chosen by members of strong groups were compared with those chosen by members of weak groups. Members of strong groups chose aspirations in the intermediate range of difficulty significantly more often than members of weak groups. In another experiment (Chapter 5) the aspiration choices of members whose work was central to the performance of the group were compared with the choices of members whose work was peripheral. Central members, who clearly felt more responsible for the group's fate, chose aspirations in the intermediate range more often than did peripheral members--the latter tended to prefer either difficult or easy tasks.

If the supposition is correct that contrasting social conditions caused separate amounts of DGach, it follows that the effects of DGach on group aspirations are similar to the effects of Nach on individual aspirations, as reported by Atkinson (1957).

Hope for Group Success and Fear of Group Failure

We have assumed that the incentive value of group success on a given task is an inverse function of the perceived probability of the group's succeeding on that task. The more difficult a task is perceived to be, the more satisfying is a successful performance on it. Suppose now that there exists an incentive value of failure. This is a negative incentive and is stronger for easier tasks than for more difficult ones. That is, the dissatisfaction from failing on an easy task is greater than from failing on a difficult task. Where the positive incentive of achieving success exceeds the negative incentive of failing, we say that the members hope for group success. Where the negative incentive of failing is greater than the positive incentive of succeeding, we say that the members fear group failure. Members of a group who hope for group success are likely to choose group aspirations in the intermediate range of difficulty because such tasks have greater resultant motivation. Members of a group who fear group failure, it follows, will have the greatest negative attraction to tasks in the intermediate range of difficulty and will wish to avoid these in favor of either very easy or very difficult tasks. Several studies in this series were concerned with efforts to develop hope for group success or fear of group failure so that these last hypotheses could be tested.

In one instance hope for group success was to be aroused by giving groups a task to perform a number of times under the rules that a success is rewarding but a failure is not costly (See Chapter 6). Fear of group failure was to be aroused by the same task and the rules that failure is costly but success is not rewarding. The former is called the reward condition and the latter the cost condition. The specific prediction was that members in the reward condition would prefer group aspirations in the intermediate range of difficulty more than members in the cost condition. This prediction was well supported.

In another instance we assumed that persons who ordinarily become anxious whenever they are to perform a solo task which can be evaluated against some standard of excellence will be more likely to fear group failure, whereas persons who are not anxious in such a test will be more likely to hope for group success. Thus experimental groups were composed of persons high in test anxiety and compared with groups of persons low in test anxiety. Members of groups with low anxiety preferred their group to attempt tasks in the intermediate range of difficulty more than did members with high anxiety, the latter preferred either more easy or more difficult tasks (Chapter 7).

In that same experiment members were provided information about their individual competence on the group's task. Among the members of four person groups, each member knew his own relative competence but not the scores of specific colleagues. We assumed that these ratings would make the least competent person anxious about his own performance and the most competent person not anxious about his performance. The results suggest that this in fact did occur, but the most competent persons did not prefer intermediate group tasks more than the least competent persons, nor did HiComp and LoComp persons differ in the mean aspirations they proposed for their group. Apparently, high or low competence as a member does not cause one to hope for group success or to fear group failure.

The reaction to group success or group failure will differ, presumably, for members who hope for group success or fear group failure. Among both types, aspirations preferred for the group should shift in accordance with the rule, "succeed, raise; fail, lower", but persons who fear group failure should react to failure by an increased arousal of avoidant motivation. Thus, a series of group failures on easy tasks should lead members who fear group failure, more than those who hope for group success, to make a jump from easier to more difficult tasks, since more difficult tasks become less unattractive by comparison with easier tasks. More "wild jumps" in setting group aspirations may be expected after a group failure, therefore, in fear of failure groups than in hope for success groups. Results reported in Chapters 6 and 7 support this expectation.

Finally, we remark that persons with high test anxiety are not as likely to have differential reactions to success and failure as are persons with low test anxiety (Chapter 7). When members are personally disposed to be anxious, perhaps they are too concerned with their own performance to be differentially aware of a good or bad output by their group.

External Influences on a Group's Aspirations

Up to this point we have restricted our attention to conditions inside a group (or member) and have observed how these conditions influence a group's aspirations. But members are concerned with circumstances beyond the boundaries of their social unit and may take these external events into consideration when choosing their group's aspirations. They compare, for example, their group's score with the score of other groups and ask themselves if they are doing as well as they might. Or, they receive a request from outsiders to achieve a particular level of group performance and feel obligated to grant the request. Let us consider three sources of external social influence in turn and examine how these affect a member's aspirations for his group: (a) comparison of own group's score with the score of other groups, (b) predictions made by persons who observe the group's performance, and (c) direct requests to obtain a particular group score.

A group in the absence of external social influences tends to select future aspirations which are slightly better than their past group scores. Over a series of trials, therefore, the average level of aspiration is higher than the average score of the group. Control groups in Chapters 2, 3, and 4 demonstrate this phenomenon well. The discrepancy between a group level of aspiration and the previous score of the group is called the D-score. In what follows we consider the effects of social conditions upon the size of the D-score since by so doing we control on the already present tendency to raise group aspirations above group scores.

(a) Social comparison. We have observed that the level of aspiration a member favors for his group is a function of his DGach, the probability that the group can attain that level and the attractiveness of attaining that level. If a member compares the performance of his group with the score achieved by another group and as a result changes his aspiration for his group, the comparison must in some way have affected his motive, probability, or incentive, assuming, of course, that the comparative group has placed no demands upon the aspiration setters. In order to consider the nature of this effect, we examine first the results from an experiment in which social comparison processes occurred.

The relevant study is described in Chapter 2. In it groups attempted a series of trials and before each one were told the average score of other groups (models) in this school for that trial. One third of the performing groups were told consistently that the model's scores were higher than the performers' scores (hereafter, Comparative Failure, CF), one-third were told that the model's scores were lower than the performers' scores (hereafter, Comparative Success, CS) and one'third were told nothing about how well the models had done (Controls).

In the CF condition the performing groups raised their aspirations and placed them closer to the scores of the models than groups in the Control condition, with the result that the D-score was considerably larger in the CF condition than in the Control. In the CS condition performing groups also raised their aspirations and placed them closer to the scores of the models than in the Control condition but the amount of the raise was very small, with the result that the D-scores were smaller in the CS condition than in the Control. Comparative Failure, then, generated larger D-scores and Comparative Success smaller D-scores than in the Control condition. Note that in both the CF and CS conditions group aspirations were raised, more in CF than in CS.

Why did social comparison have these effects? It does not seem useful to assume that the CF condition created stronger DGach than the CS condition, since variations in DGach do not usually generate differences in the mean level of aspiration. What is more likely is that participants placed greater credibility in the average scores of teams in the school than they placed in their own group's past scores. Knowledge of the scores of many other groups, compared to their own scores, indicated to them that their group ought to be doing better (in the CF condition), or is already doing very well (in the CS condition). Thus, in the CF condition performers perceive that a level of difficulty which they ordinarily would have assigned a probability of .40 or .30, given their own scores on the task, should be perceived as having a .50 level. Because of the social comparison, in short, they select a more difficult level than their own scores warrant. Similarly in the CS condition members perceive that a level they ordinarily would assign a probability of .60 or .70 is closer to .50 and they select a less difficult level than their past group scores warrant. It seems reasonable then that learning about the scores of other groups had an impact upon the performing group's estimates of probability of attainment, and they gave that evidence considerable weight.

The fact that the CF condition created a larger D-score than the CS condition invites further speculation. It is noteworthy that the direction of shifts within the CS and CF conditions are not strikingly different; about 40 per cent of the changes in group aspiration from one trial to another are upward in both CF and CS and about 35 per cent are downard in both CF and CS. Thus, the larger mean D-score in CF (than in CS) indicates that the shifts in CF are bigger in amount, upward. A member's confidence that his group will attain its level of aspiration (a ballot completed by members in private before each trial, after they had decided upon the group's aspiration) was significantly lower in the CF condition than in the CS one. Thus, the members apparently recognized that the aspirations of their group in the CF condition were too high, given their past group scores.

The lack of confidence just mentioned and the fact that it occurred in a condition of comparative failure may mean that group members had more fear of failure in the CF condition than in the CS one. Thus, they had an increased arousal of avoidant motivation and may have jumped from an easier to a more difficult task, since failure on a more difficult task (given the high likelihood of the group's failing) is less unattractive than on an easier task. The greater D-score in the CF condition, therefore, may be in part the effect of a "wild jump," stimulated by the awareness that the group ought to be doing better, and probably could be doing better, since the average group in the school does better.

The effects of social comparison may be summarized in a rule for the amount (not direction) of change in aspiration levels: "CF, large D-score; CS, small D-score." In the Control groups the rule would be "Succeed, large D-score; Fail, small negative D-score." It follows that a failure by a group in a CF condition, or a success by a group in a CS condition generate moderate positive D-scores. But a successful attainment of group aspiration in a CF condition leads to a very large D-score and a failure to attain group aspiration in a CS condition results in a very small D-score. These derivations have not been tested.

(b) Predictions by others. If, as we have seen, members change their estimates of the probability of their group's success when they learn that other groups do better or poorer than they do, it follows that outsider's aspirations for the group should also influence the performers' aspirations and particularly their estimates about their group's likely levels of success.

The experiment described in Chapter 4 required a trio of observers to watch performers in every part of their work, except in the levels of aspiration the performers set for themselves. Before each new trial the observers estimated the performers' team score on the next trial. In one condition the observers were dependent upon the performers for a reward, which it was assumed would make their predicted aspirations have greater weight in the eyes of the performers. In the other condition the observers were not dependent upon the performers for a reward, which it was assumed would make their predicted aspirations have lesser weight for the performers. The aspirations from the observers to the performers were controlled by the experimenter so that they were in one case very high and in the other case very low.

The results support the original hypothesis. That is, the performers had larger D-scores if the observers sent high estimates and smaller D-scores if the observers sent low estimates. But the dependency of the observers on the performers was not needed to ensure that the observers' predictions influenced the performing group's aspirations.

Adherence to a high level of external influence was again greater than to a low one. The high goal, moreover, was taken by the performers as a compliment and the low one as an insult, suggesting that the performers placed more value on the more difficult goal.

(c) Direct request for a given score. Can direct demands from an attractive and legitimate source also influence a group's aspirations? The available results on this matter are described in Chapter 3.

In that experiment members of the performing group were urged to achieve a particular level of performance before each trial on the group task. In one instance this request was made without comments about potential rewards or punishments for the group's score (referent condition). In another case the same request was made and a reward was promised for success (reward condition). In a third instance the same request was made and a punishment was promised for failure (coercive condition).

In all three experimental conditions the amount of increase in D-score was larger than in a control condition where no requests were made of the groups. The reward and punishment conditions had stronger effects than the referent one and the reward condition was stronger than the punishment one. In Chapter 6, to cite a contrast, promises of a penalty for a poor score or a reward for a good score were made to the group by the experimenter. In that instance the penalty (cost) condition generated higher aspirations than the reward condition. The effect of direct demands on group aspirations wants more differentiated explanation and study.

Evaluation of Group

A group's aspirations are taken to be meaningful to its members if the members make a favorable evaluation of a performance in which the group's level of aspiration is achieved and a low evaluation of a performance in which the group's aspiration is not reached. There is no doubt that members decide upon the goodness of their group's acts by comparing them with prior expectations, but members use various criteria for these evaluations, not only the group's aspirations. There are, in addition, conditions which lead to favorable appraisal of the group's performance regardless of the quality of that performance. These have indirect consequences for group aspirations. First, consider five sources of evaluative criteria.

(a) Group aspirations chosen in group discussion. These are aspirations chosen as a result of a democratic group discussion. When group aspirations have this source, members tend to rate their group high if it performs up to its aspiration and low if it fails to do so (Chapters5 and 6). Observers also rate the performing group high if it attains the observer's group-decided aspirations and low if it fails to attain the observers' aspirations (Chapter 4). Group-decided aspirations, then, are readily taken by members as criteria for evaluating group performance.

The effect just described is more likely to occur if the members are not anxious about taking tests than if they are anxious about tests, (Chapter 7) and if members agree that the aspiration is an appropriate one for the group than if they do not so agree (Chapter 8).

(b) Member's aspiration for group. Because the member's aspiration for his group seldom differs greatly from the group-decided level of aspiration, it is difficult to determine if this criterion is used more, less, or differently from the group level of aspiration when a member evaluates the performance of his group. What evidence exists, in Chapter 2, indicates that members used personal and group aspirations alike in evaluating the quality of the group's performance.

(c) Group aspiration assigned group by a member. A successful group was rated a success and a failing group a failure to an equal degree by those who assigned the aspiration to the group (central members) and by those who received the assignment (peripheral members) (Chapter 5).

(d) Knowledge of the score of comparable groups. The members in a group in the CF condition rate their group very low and those in the CS condition rate their group very high in quality of performance. A failure by a group to attain its own level of aspiration and a success in doing so, moreover, were taken as poor and good performances, respectively, in the CF condition more than in the CS one (Chapter 2).

(e) Prediction by others. When the members set aspirations which apparently were influenced by observers, they rated achievement of their aspiration as a success and failure as a failure. This occurred when the observers predicted high scores but not when they predicted low ones, and was stronger, moreover, when the observers depended on the performers than when they did not do so (Chapter 4).

(f) Score urged on group by outsiders. A direct request to attain a particular score is taken by members as a criterion of group evaluation if the request is accompanied by a reward, we have noted above, more than if it is accompanied by other sanctions or by no sanctions at all (Chapter 3).

Certain properties of persons or social settings are associated with approval of the group's performance, regardless of its score. These properties reveal that the more a member is involved in his group's task and the more he perceives that task to be worth the effort, the higher he evaluates his group. The group's performance is judged more favorably when members are:

1. One of the more capable members of a group (Chapter 7),
2. In a role which is more central to the performance of the group's work (Chapter 5),
3. In a group with a more difficult task (Chapter 8),
4. In a group whose members are more interested in the group's score than in their own personal quality of performance (Chapter 7),
5. More anxious about taking tests (and thus presumably more likely to fear group failure) (Chapter 7),
6. In a strong group where fear of failure is dominant and the group fails, than in a weak group with fear of failure (Chapter 6).

Member's Evaluation of Own Performance

Although we have been considering a member's aspiration for his group and his evaluation of his group's performance, it is clear that we implicitly have been considering his aspiration for himself as a part of the group and his own role in that social unit. If the member is deeply involved in the group, its successes and failure will be his own and his evaluation of his own effort will be the same as his evaluation of the group's performance. If he is little involved in the group, its experience will not affect him very much. Certain social conditions then can cause a member to judge his performance in close accord with the performance of his group because they make the member more or less closely identified with the group. Speaking broadly, members tend to rate their personal performance well if the group does well and low if the group does poorly (Chapters 2 and 4), but this is not always so. Here are some cases in which members did not evaluate themselves in accord with the group's score. They are listed, to facilitate comparison, under each of the sources of evaluative criteria we have discussed in the previous section.

(a) Group's aspirations chosen in group discussion. When a group set its aspirations in this fashion, members were inclined to rate their personal performance high if the group attained its aspiration and to rate their performance just as high if it did not attain its aspiration (Chapter 5 and Dustin, 1963). This result occurred more often for members whose roles were peripheral in the work of the group. In contrast, a poor group score was taken to be proof of a poor personal performance when the member had a central role in the group (Chapter 5), had low test anxiety (Chapter 7), and exerted more energy on the group's task (Chapter 6).

(b) Member's own aspiration for group. There is no evidence that members rated their personal performance in reference to their aspirations for the group--even members who desired their groups to have higher aspirations than the group decided upon did not rate themselves differently from members whose aspirations were similar to the ones selected by the group as a whole (Chapter 2).

(c) Group aspirations assigned by group member. If the aspiration was assigned to the group by the central member, both central and peripheral members rated their personal performance high if their group did well and low if their group did not do well. Indeed, aspirations proposed by the central member were more acceptable and more often used as criteria for evaluation of self than aspirations the group selected as a group (Chapter 5).

(d) Knowledge of scores of comparable groups. Members more often rated their own performance high if their group was better than other groups (i.e., their group was in the CS condition) but did not rate their personal performance low if their group was poorer than other groups (i.e., in the CF condition) (Chapter 2).

(e) Predictions made by others. The quality of the group's performance relative to the predictions made by others had no effect upon the members' rating of their personal performances (Chapter 4).

(f) Achievement urged on group by outsiders. When the group was requested to attain a particular score, the group's score was taken as an indicator of goodness of personal performance only when the urging was not accompanied by sanctions (Chapter 3).

The performance of the group is not always taken, then, as an indicator of own personal competence. If a member has a less responsible position in a failing group, or for other reasons is less involved in the group's fate, he is less likely to perceive that a poor quality of group effort describes his own competence. It is interesting that members apparently were more affected personally when a central member set their group's score than when they had an opportunity to participate in selecting the group's level of aspiration.

Members Perceived Worry and Tension

Persons who have pressures acting upon them to perform well, particularly when these pressures demand more than can be provided within the limits of available competence or energy, are likely to reveal considerable worry or tension. In the light of this assumption it is not surprising to note that group members report greater worry or tension under the following conditions:

(a) Individuals performing a solo task, whose scores are considerably lower than the average, report greater tension than team members whose team-scores are lower than other teams (Chapter 2).

(b) Persons with high test anxiety perceive more worry and tension while working as a team member than persons with low test anxiety (Chapter 7).

(c) Persons who are in the fear of failure (cost) condition express more worry and tension than those in the hope for success (reward) condition (Chapter 6).

(d) Persons whose groups are requested to perform at a given level and are promised a reward for success or a punishment for failure are more worried and tense than ones whose groups are also asked to perform well but who are offered no sanctions in support of the request (Chapter 3).

Performance of Group

The greatest resultant motivation, we have seen, is for group tasks in the intermediate range of difficulty, and the resultant motivation for such intermediate tasks is sharply increased when members of the group have a stronger desire for achievement of group success (DGach). It follows that performance should be better, or energy exertion at least greater, on group tasks in the middle range of difficulty than on easy or difficult tasks. Results in the present studies do not support this last hypothesis (in fact, findings in Chapter 6 significantly contradict it), but none of the experiments were designed to test it efficiently since performance scores often had to be falsified or routine tasks employed in which members' skill or effort was not useful in improving the group's score.

It is of interest that solo persons performed considerably better in a condition of comparative failure than did teams. But this result may be an artifact created by the difficulty in coordinating effort among a number of persons (Chapter 2). Team members who knew that other person's rewards were depending upon the team's score did somewhat better on their group task than teams who had no such dependents (Chapter 4). Members rated their energy output higher when fearing costs for group failure than when hoping for rewards from group success (Chapter 6). Members of groups working on difficult tasks demonstrated greater tendencies to use problem solving behavior than members of groups working on easy tasks (Chapter 8). Clearly, group performance needs further study as a product of variations in group aspirations.

Coping with Perceived Consequences of Group's Score

Members of a group who have jointly agreed upon a group level of aspiration are likely to engage in coping behavior if the group's subsequent score is different from expectation. One form of this behavior, called aspiration-coping, has already been considered in some detail when reviewing changes in members' aspirations for their group and how these changes are in accord with the rule, "succeed, raise; fail, lower." We turn now to a second form of this behavior called consequence-coping and examine its origin and effects.

The initial observation which evolved into the present conception was that changes in a group's score lead to changes in the behavior of members, other than shifts in the group's level of aspiration. If a group fails, on the one hand, to perform as well as other groups, members are inclined to derogate the validity of the team's score, the importance of the ability involved in the score or the importance of doing as well as other groups, and to dislike the idea of further work on the task. If, on the other hand, the group does as well as other groups, the members think the score to be a valid one, believe that it is important to do well and are eager for further work on the task. Results such as these are reported in Chpaters 2, 5, 7, and 8. Why the unfavorable responses after a group failure and the favorable responses after a group success?

An early conjecture of ours was that the beliefs of members about the task (and their behaviors toward it) were prompted by efforts to maximize evaluation of the group and of the member himself. A member, for example, who observes that his group is performing less well than demanded of it may try to get the demands lowered, may distort the demands, may misrecall the group's score, may convince colleagues that the demands are not important, or may work hard to improve performance of the group in order to reduce the discrepancy between aspiration and performance. Results, however, were not always logically consistent in support of this conjecture. A related hypothesis was that group members seek to change conditions which generate group failure and to stabilize conditions which create group success. Here again results were often inconsistent and not wholly in support of the hypothesis.

Our present view, which is not unlikely to change, is that favorable responses are indicative of "approach" reactions and unfavorable responses indicative of "avoid" reactions. Approach is defined as efforts to continue, maintain, or pursue a certain kind of stimulation. Avoidance is defined as efforts to discontinue, remove or escape from a certain type of stimulation--an attack, moreover, is to remove the source of stimulation just as does withdrawal. A successful performance in which the group's score is above its level of aspiration generates favorable (approaching) reactions, we believe, because it promises a high probability that desirable consequences will follow for the members. Examples of such consequences are: approval by observers, increase in bonus payments, assurance that the group has good teamwork, and the like. A failing performance, in which the group score is below its level of aspiration, generates unfavorable (avoiding) reactions because the low score suggests that undesirable consequences will follow. Consequence coping behavior, then, is to ensure that potentially favorable outcomes will in fact occur and that potentially negative outcomes will not occur. Any of a wide variety of behaviors may help group members to approach or to avoid. What will work and what is used depends upon conditions in the social environment.

Avoidance and approach as defined above have been used by McClelland, Atkinson, Clark and Lowell (1953) to indicate that a motive has been aroused in an individual. The motive in the present case, we assume, is DGach. Thus, it appears sensible that successes by a group stimulate behaviors indicative of a member's desire for achievement of group success while failure generates behavior indicative of fear of group failure. What we saw originally as a type of compensatory mechanism, implicit in the label coping behavior, may perhaps be better viewed as an indication that a motive has been aroused either to succeed or to avoid failure. Coping behavior, in short, may merely be evidence that a motive is present among the members.

The reactions made by groups to the queries intended to measure coping behavior were the same whether these reactions were expressed privately by separate members or were the product of a group discussion and decision (Chapter 8). Thus, members can be conceived as arriving at a group "policy" concerning matters involved in coping. Group decisions, however, indicate a stronger tendency to approach difficult tasks and to avoid easy ones than the same members individually and privately wish their groups to do. A relevant contrast is to be seen in the coping responses of group members and of solo persons (Chapter 2). Among the group members there is a stronger tendency to approach success and to avoid failure than there is among solo persons. Among the group members, moreover, those who consistently set higher aspirations for the group than the group subsequently sets for itself are more inclined to approach success and to avoid failure than other members whose aspirations for the group are not so high (Chapter 2).

We should note that members with greater test anxiety and with lower competence avoid more, regardless of the group's success or failure, than members with lower test anxiety and higher competence (Chapter 7).

On the whole the success or failure of the group largely determines the occurrence of what we have been calling consequence coping behavior. None of the following variables were significantly related to greater amounts of approaching or avoiding: the bases of power employed by agents inducing the group to achieve a higher score, the degree of dependence of these agents on the workers, the level of the predictions made by other teams, the centrality of the member in the group's flow of work, the amount of discussion allowed among members, the probability that consequences favorable or otherwise will occur as a result of a given score, or strong versus weak groups.

Summary

We have reviewed results from a series of preliminary studies on group aspirations. In our view the highlights from this program are the following.

1. The level of achievement a member desires his group to attain is that one among a set of alternatives which has the largest resultant motivation for him.

2. The resultant motivation is a multiplicative function of the strength of the members' desire for group achievement of success, the perceived probability that the group can successfully achieve a given level and the incentive value to members for attaining that level.

3. Regardless of the members' desire for group success, aspiration levels change from trial to trial in accord with the rule, "succeed, raise; fail, lower."

4. Group members may develop a positive desire for their group to attain a group success or a negative desire to prevent group failure. Situational and personal properties each contribute to these motives.

5. Members who approach group success propose group tasks with intermediate levels of difficulty while members who fear group failure prefer either very easy or very difficult tasks for their group.

6. The stronger a member's desire for group achievement of success, the more the member prefers his group to attempt tasks in the intermediate range of difficulty.

7. Social pressures on a group may cause members to select aspirations under certain conditions which are either not feasible (too difficult for the group) or not a challenge (too easy).

8. Persons who observe a group at work, but do not participate in the work themselves, and who are constrained to state their expectations about the future performance of the workers, have the same expectations as the workers and differ from the workers only in being more optimistic about the workers' performance than the workers are themselves.

9. Social properties among a set of persons may determine their strength of desire for group achievement or their fear of group failure. Thus, social properties can determine the group's aspiration. Among these properties are: the relative responsibility of the member, the strength of the group, and the locus of decision making in the group.

10. The quality of a group's score is judged in the light of the group's aspirations--a score better than expected is evaluated favorably and one less than expected is evaluated unfavorably.

11. Members tend to deny that they personally performed poorly as a member when the group fails and to rate their own performance high when their group does well--this is especially true of those with less important roles in the group.

12. Members approach tasks in which they succeed and avoid tasks in which they fail, apparently in order to obtain the positive consequences following from failure.

13. Group members are more inclined to approach success and to avoid failure than are solo persons working on individual tasks; and group decisions compared to private views indicate that group interaction generates stronger motives--negative or positive, about group success.

Chapter Two

Individual and Group Levels of Aspiration[1]

Alvin Zander and Herman Medow

When an individual performs a task, he may obtain a score. If he repeatedly works on the same task, he develops an expectation concerning his future score. This is commonly referred to as his level of aspiration. Past research has shown that a person is influenced, when choosing a level of aspiration, by such matters as his previous score on the task and the achievements of others like himself. He, moreover, evaluates his performance as a success or a failure by judging it in reference to his level of aspiration, and employs ways of coping with an unexpected level of performance.

How are we to conceive of these phenomena when a collection of people jointly engage in a common task? In many circumstances, it seems quite natural to speak of the score attained by the set of people. Thus, a baseball team scores five runs or a fund-raising committee collects $100,000. But what about expectations? Can we properly speak of expectation held by a set of people? Can there be a group level of aspiration comparable to an individual level of aspiration?

We believe that, strictly speaking, expectations and aspirations are properties of individuals. Thus, there is no essential problem in the concept of a person's expectation concerning a group score, or of a member's goal for his group. Still, it is possible to go further. Often a collection of people engage in deciding upon a desired score for their group. A committee of persons in charge of a financial campaign decide how much money they expect to obtain, or a board in control of a factory's production determines the number of units to be manufactured in a given period. There can be little doubt that such decisions have demonstrable effects on the performance of the group, that is, on the score of the group.

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[1] We are grateful for the assistance Oscar Alers provided during the administration of this experiment, and for the help of David Dustin and Ronald Efron in the analysis of these data.

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Whenever an expected score for a group is explicitly stated and accepted by the members of the group, we shall speak of a group level of aspiration. With these distinctions in the use of terms, we wish to ask questions concerning the determinants and consequences of a group level of aspiration. More specifically, do the findings concerning an individual level of aspiration apply to a group level of aspiration?

In order to compare in the laboratory the performances and aspirations of individuals and groups, we must make the operations for working, scoring, and aspiration-setting similar for individuals and groups. Single individuals and members of a group ordinarily have quite different tasks and shares in these tasks. When a single individual works, it is perfectly clear to whom the score belongs and who is responsible for its attainment. But, when members of a collectivity perform a collaborative task, it is not always clear who is responsible for the outcome: some members may contribute more than others, or some may need to wait upon the actions of others before they can do their part. Single persons and collectivities ordinarily differ in their expectations. When a solo person sets a level of aspiration, it is evident at once what he is anticipating about whose behavior. But when members of a collectivity decide upon a level of aspiration, who is expecting what about whom? Where does the decision lie? It must be in the expectations of the separate members, yet how are these *different* expectations joined to form a collective aspiration?[2]

Performance is defined as the score obtained on a specific trial on a given task by a set of any size, from one to many persons. *A level of aspiration* is defined as the score that a set of any size, from one to many persons, expects to attain on a trial in the immediate future.

Our operational rules for the task, in accord with the above definitions, are that the physical actions required be exactly the same when persons are working alone or are working in collaboration with others, that the task be as easy for one person to do as for a set of persons to do, and that those working as a group perform together and in unison. No member of a collectivity, furthermore, is to get a separate score; rather, the set will obtain the score.

The level of aspiration, in accord with its definition, is to be a publicly stated decision in which there is uniformity of expectation about the aspiration for the set regardless of the number in the set. In the case of the individual, a simple statement of his decision is all that is required. In the collectivity, however, each person is first to reach and record his decision privately concerning the performance he expects his set to attain on the next trial, hereafter designated as a *member's expectation for his set*. Following this, members are publicly to discuss differences of opinion among them on this matter, and finally they are to arrive at a public and unanimous decision about the set's level of aspiration. Because unanimity requires uniformity of belief among all members, this decision is designated as the aspiration of the set for the set or, more simply, the set's level of aspiration.

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[2] Floyd Allport has recently (1962) discussed the dilemmas involved in developing concepts about collective behavior, referring to them as aspects of the "master problem" in social psychology. Cartwright and Zander (1960) have also identified issues involved in the integration of individual motives into group motives.

For convenience in exposition we shall speak of the performances and aspirations of solo persons, meaning the behaviors of sets containing one person; and we shall speak of the performance and aspiration of teams, meaning the behavior by a set of more than one person. In order to determine if size of set is a variable relevant to the determinants and consequences of a level of aspiration, teams with three members and teams with five members, as well as solo persons, will be used.

We employ the common features among theories of aspiration-setting described elsewhere (Festinger, 1942; Lewin, Dembo, Festinger, Sears, 1944; Atkinson, 1957). These theories explain the selection of a particular aspiration level as a function of its resultant valence. The resultant valence, in turn, is determined by the satisfaction anticipated from attaining that alternative times the probability of attaining it. We expect solo persons and teams to behave in quite similar fashions in setting aspirations and in reacting to related phenomena. More specifically, our expectations are:

(a) In the absence of external influences, teams and solo persons will most often select a level of aspiration for the immediate future which is slightly above their past level of performance.

(b) As performances of teams and solo persons change, their levels of aspiration change.

(c) When members of teams and solo persons are able to compare their scores with scores obtained by relevant others, the scores of the others are taken into consideration in selecting a level of aspiration; if the others' scores are better than their own, teams and solo persons will be induced to raise their aspiration levels; if the others' scores are poorer than their own, teams and solo persons will be induced to lower their aspirations.

(d) Members of teams and solo persons will evaluate their performance in accord with the discrepancy between performance and previously chosen level of aspiration; a level of performance below the aspiration being rated unfavorably and a performance above the aspiration being rated favorably.

(e) When members of teams and solo persons evaluate their performances poorly they engage in coping behaviors intended to reduce the threat to their self esteem.

Beyond such expectations, more fully described in the discussion of results, additional speculations are stimulated by the facts that a team's aspiration is selected in open discussion from among members' separate expectations for the team, and that these aspirations are chosen in the light of performance by the team as a unit, with no clear knowledge about *differences in contribution of each member to the score* of the team. There may be, for example, restraints felt by members against discussing a poor performance by their team since comments about the poor performance can be taken as derogatory observations about one another. If such restraints exist, the level of aspiration may be unduly optimistic because the discussion will be unwarrantedly weighted with favorable or neutral remarks about the team's performance, thus generating a shared belief that there is a greater probability of achieving a difficult goal than in fact is true.

Because the team's aspiration is a resultant of choosing among the members' expectations for the team, the team goal may for some members be quite different from what they personally propose. Thus, different members may have different degrees of conviction concerning the wisdom of the particular aspiration chosen by the team. Will these differences in conviction affect relations among members, their evaluations of the team, their coping behavior?

Members of a team have opportunities for social interaction and the development of social support which are not available to solo persons. Where their team performs less well than they expected it to do, the members can provide encouragement for one another in the employment of rationalizations for their failure. Thus, team members, more than solo persons, may more readily employ excuses for a poor performance.

Method

Subjects in this experiment participated either as members of a team or as solo performers on a motor task requiring fourteen trials. Before each trial they set a level of aspiration.

Subjects

Participants were 225 eleventh- and twelfth-grade boys from two high schools in different communities. There were no significant differences in the results from the two schools. Twenty-four boys worked as solo subjects, 81 as members of 27 three-man teams, and 120 as members of 24 five-man teams. They were assigned to this experiment, and the groups were composed, by a member of the schools' staff.

Experimental Task

The experimenter introduced himself as an employee of the University Testing Service (a fictitious organization) and explained that he was working on a nation-wide survey to test how much "muscle control" (or, for teams, "teamwork in muscle control") high-school students have. In manner, the experimenter was neutral and refrained from giving any evaluation of the subjects' efforts. The ability was described as a skill in accurate muscle movements, and participants were informed that the sponsors of the survey were also interested in learning how well students can judge the amount of control they have over these movements. The judgment aspect of the purpose was included in order that the experimenter's requests for levels of aspiration would appear to be reasonable. The importance of muscle control as a useful ability in various careers was amplified in ways similar to those used by Zander and Curtis (1962).

The nature of the experimental task was explained to the subjects and they were asked to make fifteen practice shots (five shots equal one trial). The task was modelled after the board originally developed by Rotter (1942) but increased about four times in size for the present purposes. It is 12 feet long and 8 inches wide; a channel 3.5 inches wide extends the length of the board, made of parallel rails 1.75 inches high. A wooden croquet ball (3 inches in diameter) is propelled down this channel with an aluminum, rubber-tipped pole, 6 feet long. The object is to make the ball stop as close as possible to a Number 10 placed beside the channel. Numbers from 1 to 9 are placed three inches apart, decreasing in amount in both directions from the Number 10, The number reached by the ball is the score obtained for that shot regardless of whether it is beyond or before the ten. The higher the score, the better the subject has performed. Small holes (.75 inch diameter) bored in the floor of the channel next to each number slow the rolling of the ball and steady it beside one or another number. It is possible for a group of any size up to six members to grasp the pole and simultaneously to move the rod in order to stroke the ball. The board is placed at table-top level and shooting is done by swinging the extended arm in a smooth stroke; most groups develop a "counted" rhythm so that members can move in unison. The pole is light enough for one individual to make his shots exactly as groups do, and just as easily.

Experimental Treatments

Different instructions now followed, depending upon whether the teams and solo persons were assigned to the success, failure, or control treatments. There were eight solo persons, nine three-man groups, and eight five-man groups in each of the following three experimental treatments.

Success treatment. This condition demanded that subjects be led to believe that their performances were superior to scores obtained by persons like themselves, that is, to scores obtained by others with referent social power in respect to the subjects (cf. French and Raven, 1959). Accordingly, subjects were informed by the experimenter that he would report for their information the average of the scores obtained by all the other teams or solo persons in this school. Prior to each trial, and before the subjects were asked to think about their next level of aspiration, the experimenter stated aloud the (fictitious) average score of others for that trial and wrote it on the blackboard in such a position that comparisons were clearly visible, trial by trial, among the subjects' scores, their own aspirations, and the alleged scores of the others. In this treatment these reported scores were set at a level of difficulty which from prior experience it was known would be exceeded by about four points by teams or individuals most of the time. The reported scores were the same for the solo persons and the teams, with a gradual increase in the magnitude of the scores over the fourteen trials (from 29 at the outset to 35 for the last trial; mean=32.5).

Failure treatment. This condition required that subjects be led to believe that their performances were inferior to the scores obtained by persons like themselves. The procedure was the same as that in the success condition except that the alleged scores were set at a level of difficulty which teams and solo persons would miss by about four points most of the time (from 37 at the outset to 45 for the last trial; mean=40.4).

Control treatment. In this condition no scores from referent groups were reported to the participants but all other procedures were the same.

Measures

Performance was measured by the score on each trial and the mean score over all fourteen trials.

Before the teams held their discussions to decide upon an aspiration for the anticipated trial, each member indicated on a private ballot his expected score for the team: "In my opinion, on the next trial our team will be able to get a score of ___." The member also rated on his ballot his level of confidence in attaining this expected level: "I think my team's chances of getting the above score are...", followed by a seven-point rating scale, very poor--excellent.

After these ballots had been collected by the experimenter, the team members, seated in a circle, were asked to discuss the score they thought they would be able to get on the next trial and to reach a unanimous decision. In almost all cases the pattern of discussion was similar: each member stated in turn what he expected the group's score on the next trial would be; discussion followed in which members gave reasons for their beliefs, drawing upon a real or imagined curve of improvement, making suggestions for ways of improving the method of shooting, and so on; informal "motions" suggesting various levels for the group to agree upon were stated aloud by one or more members until all were in public agreement. This agreed-upon level was recorded as the group's level of aspiration. The discussions seldom lasted more than a minute or two. They were quiet with no stubborn holdouts; compromise in favor of unanimity was clearly the dominant motive.

Each member was then asked to fill out a second form privately. He rated how hard he thought the others would try to reach the aspiration level selected by the team, and his level of confidence that the team would get the score decided upon. See Table 2-6 for the exact wording of these queries.

Solo persons prior to each trial were asked: "What score do you expect to get on the next trial?" They gave their reply orally and completed no forms since it was noted that solo persons were puzzled by being questioned about the feasibility of a level of aspiration they had just chosen.

After the fourteenth trial subjects were informed that there was to be an interruption in work so that they might give their reactions to the experience thus far; this information, it was said, would be used to develop a better understanding of muscle control and to improve the test. The questions, all seven-point, Likert-type rating scales, concerned evaluation of their performances, ratings of the work of others, ratings of the validity of the test and the importance of the abilities involved, as well as other questions intended to measure coping behavior. They are described at appropriate places in the discussion of the results.

Results

Direction of Changes in Aspirations

When persons set an aspiration for an anticipated trial, any discrepancy between an immediately past performance and a previously chosen level of aspiration generates forces on the [illegible] setters toward changing the subsequent level of aspiration. Forces stemming from the perceived attractiveness of attaining various levels, we assume, are consistently in the upward direction toward choosing an ever more difficult level. Forces stemming from the perceived probability of achievement, however, are directed toward lowering aspirations in the future if immediately past performance has been below the prior aspiration, and toward raising the aspiration level if immediately past performance has been above the prior aspiration level. Thus, persons raise their aspirations when they perform equal to or better than an earlier aspired level and lower their aspirations when they perform below an earlier aspired level--the rule in brief is: "succeed, raise; fail, lower" (Hoppe, 1930; Escalona, 1940). Because of the consistent upward force stemming from the attractiveness of more difficult levels, there is usually a more frequent raising of aspirations after a success than a lowering of aspirations after a failure.

We first examine changes in aspirations made by teams and solo persons (a) when their performance is poorer than the level of aspiration they had previously set, (b) when their performance is better than the previous level of aspiration, and (c) when their performance is exactly equal to the previous level of aspiration. Do teams[3] and solo persons differ in their reactions to these situations?

The numbers of trials were identified where conditions were as noted in (a), (b), and (c) above, regardless of experimental treatment, and it was observed whether the aspiration level for the anticipated trial was above, below, or the same as that chosen prior to the performance. These results are shown in Table 2-1. It is evident that both teams and solo persons follow the "succeed, raise; fail, lower" rule to a highly significant degree. There is a stronger tendency, moreover, to raise the aspiration level following a performance that was better than expected, than to lower the aspiration level following a performance that was poorer than expected. (In a separate analysis, on magnitude of change in level of aspiration, it was observed that the amount of upward movement of the level of aspiration following a performance which exceeded previous expectations was greater than the amount of downward movement following a performance which fell short of the level of aspiration.)

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[3] Unless otherwise noted, results from three-man teams and five-man teams are pooled because no important differences existed between them.

Teams and solo persons were significantly different in the direction of their changes in aspiration levels following a performance that did not reach a previously set level of aspiration (first two rows of Table 2-1): solos were more prone than were teams to keep their aspirations at the same level and teams were more prone to lower their aspirations. But, when setting an aspiration following a

Table 2-1

Direction of Changes in Level of Aspiration for Solo Persons and Teams

(N solo persons=24 N teams=51)

Performance on trial k relative to aspiration for k	N of trials	Level of aspiration for anticipated trial is: Raised	Lowered	Kept same	X^2 solos vs. teams
Perf. below aspiration					
Solo	173 (55%)[a]	13%	45%	41%	11.83**
Team	360 (55%)[b]	10	61	28	
Perf. above aspiration					
Solo	115 (36%)	81	2	17	n.s.
Team	251 (37%)	85	1	14	
Perf. equals aspiration					
Solo	24 (9%)	80	1	19	n.s.
Team	52 (8%)	65	1	34	

** $p = < .02$
**** $p = < .0001$
Solos, overall $X^2 = 150.66$****
Teams, overall $X^2 = 397.5$****

a. Percentage of all trials for solos
b. Percentage of all trials for teams

performance which was better than a prior level of aspiration, teams and solo persons were not significantly different in the direction of change, both teams and solo persons most often raising their aspirations; and, following a performance that exactly equalled the prior level of aspiration, teams and solos were again not significantly different, although the teams were somewhat more inclined to keep their aspiration at the same level as their prior one.

Because teams and solo persons were different in the direction of their changes when setting aspiration levels following a performance below a previous level of aspiration, it is useful to inquire whether the difference between teams and solo persons in this situation was consistent in each of the experimental treatments, success, failure, and control. The data in Table 2-2 are relevant here. The finding

Table 2-2

Direction of Change in Level of Aspiration when Performance is Below Aspiration for That Trial, Teams and Solo Persons

Treatment	N of trials	Level of aspiration for anticipated trial is: Raised	Lowered	Kept same	X^2 solos vs. teams
Control					
Solos	57	16%	49%	35%	6.87*
Teams	118	8	69	23	
Success					
Solos	57	11	42	47	8.79**
Teams	106	6	66	28	
Failure					
Solos	59	14	46	40	n.s.
Teams	136	15	51	34	

* p = <.05
** p = <.02

X^2 Solos, overall=n.s.
X^2 Teams, overall=12.89**

described above, in which teams tend to lower their aspirations whereas solo persons in contrast tend to maintain a previous level, exists to a significant degree in the success and control conditions, but in the failure condition teams become as reluctant as solo persons to lower their aspirations.

In sum, teams and solo persons react alike and in accord with the "succeed, raise" part of the rule, but differ in their degree of accord with the "fail, lower" part of the rule. When teams fail to reach a level of aspiration they tend to lower their aspirations more than do solo persons, save when it is evident to them that their performances are lower than the scores made by referent groups.

The results invite speculation. Teams appeared to pay more attention to their immediately past scores when determining probabilities of success at various levels than did solos, as shown by the tendency of teams more than solos to lower their aspirations when this appeared warranted and to raise their aspirations when this appeared wise, whereas solos more often tended to raise their aspirations or to keep them at the same level as the prior aspiration. The apparent concern of teams with the probabilities of succeeding may have occurred because the team's aspiration was the result of a discussion during which members perhaps felt pressed to give rational arguments for expecting a particular score and turned to evidence about what the team ought to be able to do next time, drawing upon information about the team's past performances. Also, members of teams, in contrast to solo persons, were asked by the experimenter to judge after each trial the likelihood that the team would attain its level of aspiration. Thus, the open discussion and balloting may have sensitized team members more than solo persons to think in terms of probabilities. In the failure treatment, we note, the members of teams were apparently induced, by an unfavorable comparison of their own scores with the alleged scores of others, to ignore probabilities and to set a higher aspiration even though past performances had shown them that this was not an easy level to attain.

From these data there is no support for the expectation, mentioned earlier, that teams might be more optimistic than individuals following an experience of failure. In this situation, apparently, solo persons are more likely to be optimistic than are members of teams. The relative optimism of teams needs further study when restraints against communicating to one another about lack of success by the team are varied, and when negative comments are more likely to be threatening to particular members than was the case in the present experiment.

Discrepancy between Performance and Subsequent Level of Aspiration

The most commonly mentioned measure in studies of aspiration-setting is the D-score, the amount of discrepancy between a given level of performance and a subsequent level of aspiration. It has often been reported in previous studies that persons tend to set a level of aspiration slightly higher than their past performance, given no external influences acting upon their choice. Where external pressures exist and are in a direction to raise the level of aspiration, the D-score should be somewhat greater than in the absence of these pressures; and where the external pressures are in a direction to lower the level of aspiration, the D-score should be somewhat smaller. We expect, then, that the D-scores will be larger in the failure treatment than in the success condition and that scores in the control condition will fall between these two. The mean D-scores (and levels of performance) over all trials are shown in Table 2-3 for each condition of the experiment.

Table 2-3

Mean D-Scores and Performance Scores in Each Experimental Treatment

	N	Control (A)	Success (B)	Failure (C)	t of diff. for D-scores
Solo person	8				
D-score		1.86	1.69	2.07	n.s.
Perf. score		34.46	35.10	37.14	(B)-(C)=2.15*
Three-man team	9				
D-score		2.33	1.38	3.05	(B)-(C)=2.83**
Perf. score		36.42	36.39	35.55	
Five-man team	8				
D-score		1.45	.66	2.91	(B)-(C)=2.88* (A)-(C)=2.21*
Perf. score		36.61	36.51	36.46	
3+5 man teams	17				
D-score		1.92	1.04	2.99	(A)-(B)=1.83 (A)-(C)=2.23**
Perf. score		36.51	36.45	35.98	

Analysis of Variance for D-Scores

Source	Sums of squares	df	F
Total	165.29	74	--
Experimental treatments	26.30	2	6.85***
Unit size	4.47	2	1.17
Size X treatment	7.91	4	1.03
Error	126.61	66	--

*p = <.05
**p = <.01
***p = <.005

Note: Mean level of aspiration in any cell equals sum of performance score plus D-score.

Teams, but not solo persons, it can be noted in Table 2-3, have significantly larger D-scores in the failure treatment than in the success treatment, and in the control condition have D-scores falling between those in success and failure. The analysis of variance displayed at the bottom of the table reveals that units of different sizes did not significantly differ in D-scores. From these data we cannot say whether the awareness of the scores obtained by referent persons was more effective in determining the D-scores of teams or the D-scores of solo persons.

The levels of aspiration set by solos and teams were, on the average, very similar (about 39) in the failure treatment. Yet solo persons in that treatment performed significantly better than did teams ($p <.05$). Thus, in the failure treatment, solo persons had a relatively small D-score because they earned better performance scores on the average than did other teams. Was the solos' higher average score because they more strongly desired to perform better, were more influenced by social comparison with the alleged scores of others in the school, could for physical reasons more accurately perform the task, or because of all of these? There is no way of knowing from the present data.

Evaluation of Performance

Evaluation of performance is commonly noted to be a function of the discrepancy between performance and level of aspiration; when performance is above the aspiration it is evaluated favorably and when it is below that level it is evaluated unfavorably (Lewin et al., 1944) We expect team members and solo persons to evaluate their work in a similar fashion.

Team members were asked, in the post-experimental questionnaire: "How well do you think your team did on the test game-board?" Evaluations by members on this query were correlated with their team's D-score. The relationship was $-.32$ ($p < .01$); evaluation of the team's score was lower as its D-score was larger.[4] Solo persons were asked a comparable question about their performances. The correlation between self-evaluation and their D-scores was $-.33$ ($p < .10$). For solo persons, evaluation of self was also lower as the D-score was larger, but not to a statistically significant degree. The lack of statistical significance in this latter case is doubtless due to the small number of subjects in the solo condition.

We expect to find lower evaluations of their team by their members, and lower evaluations of self by solo persons, in the failure treatment than in the success treatment, partly because D-scores are larger in the failure treatment than in the success and partly because an objective comparison of own scores with the alleged scores of others is more unfavorable in the failure treatment than in the success.

---

[4] Team members privately recorded their expectations for their team prior to the team's discussion of its level of aspiration. Although these expectations for the team were very highly correlated with the aspirations chosen by the team, a question arises as to whether members were more likely to evaluate their team in terms of the team's aspiration or in terms of the members' expectations for the team. Correlations were computed between the member's evaluation of the performance of his team and his expectation-for-the-team D-score. The correlation is $-.46$ ($p < .01$). The difference between $-.46$ and the $-.32$ noted above is not significant. Thus it appears that members were as likely to evaluate their team in respect of the team's level of aspiration as to evaluate it in respect of the level they as individual members expected the team to attain.

Table 2-4

Evaluation of Team Performance by Members

Query	Control (A)	Success (B)	Failure (C)	t of diff.
1. Evaluation of team's performance	5.3	6.2	4.2	(A)-(B)=5.14** (A)-(C)=4.44** (B)-(C)=9.01**
2. Satisfaction with team's performance	5.1	5.5	3.9	(A)-(B)=1.76 (A)-(C)=4.84** (B)-(C)=6.38**
3. Mean quality of contributions by each member	5.4	5.7	5.0	(A)-(C)=2.25* (B)-(C)=4.14**

*p = <.05
**p = <.01

Queries

1. All in all, how well do you think your team did on the test game-board? (Very poorly - Very well)
2. How satisfied or dissatisfied do you feel with your team's performance on the test game-board? (Very dissatisfied - Very satisfied)
3. Considering today's session as a whole, how good for the team were the contributions of each of the members? (Each member in turn rated by other members: No good at all - Excellent)

The results reported in Table 2-4 indicate that members' evaluations of their team's performance, satisfaction with its performance, and evaluation of contributions made by teammates are in accord with this expectation. In addition, the team's score was made the object of ratings by members on six scales prepared in the form of the semantic differential test (Osgood, Suci & Tannenbaum, 1957). The six scales, where factor loadings are on the evaluative dimension, were: failure-success, pleasant-unpleasant, unimportant-important, worthless-valuable, sad-happy, and fair-unfair. An analysis of variance on the experimental treatments for an index composed of the sum of the ratings on these scales was significant beyond the .01 level of confidence. The teams in the failure treatment gave significantly less favorable ratings of their scores than did teams in the success condition. Finally, solo persons evaluated their performances less favorably in the failure treatment than in the success treatment, see Table 2-5.

Table 2-5

Self-Evaluations in Experimental Treatments

	Control (A)	Success (B)	Failure (C)	t of diff.
Solo persons[a]	4.6	5.6	3.4	(B) -(C)-3.61** (A) -(B)-1.72* (A) -(C)-1.80*
Team members[b]	5.4	5.7	5.1	(B) -(C)-3.39**
t of diff.	n.s.	n.s.	3.78**	

*p = <.10
**p = <.01

a. Query for solos: All in all, how well do you think you did in the test-board? (Very poorly - Very well)

b. Query for team members: Considering everything, how well do you think you personally did on the test game-board? (Very poorly Very well)

But team members' ratings of their own personal performance in the failure treatment, shown in Table 2-5 are higher than those that solo persons attributed to themselves in the same treatment. These results are worthy of note since solo persons in the failure treatment performed significantly better than did teams, and solo persons had smaller D-scores than did teams (see Table 2-3), although not significantly so. Such results lead us to expect that solo persons will evaluate their performances as well as team members evaluated their personal contributions, or better.

There are several plausible reasons why the self-evaluations of team members are higher than the self-evaluations of solo persons. First, it is probably evident to a team member that the performance of his team is not a product of his effort alone (Shaw, 1960). When the team performs poorly, therefore, he can confidently deny that the team's score is reliable evidence about his own performance in the task (if so inclined) since he has contributed a fraction of the work toward the total score; whereas solo persons have only themselves to hold to account for a poor performance. Second, team members had low confidence in the ability of their mates during the failure treatment and thus apparently put some of the blame for the poor showing on their team, an "out" not available to solo persons. Note, for example, the relatively high rating team members gave to their personal selves in Table 2-5 compared with the low ratings they gave to the team as a whole in Table 2-4. In addition, after each team aspiration had been chosen, members were asked to record privately their judgments about how hard others in the team would try to attain the level of aspiration. The mean results for all trials on these queries are revealed in Table 2-6, and suggest that members had less confidence in their mates in the failure condition than in other conditions.

A third explanation for the self-evaluation by team members being higher than that by solos is that team members were more inclined than solos to be cynical about the importance of doing well and about the validity of the test, as we shall see in the following discussion on coping behavior. Team members may very well have communicated these feelings to one another by word or sign, thereby providing social support for viewing the team's failure as unimportant in the evaluation of self and as being due to matters irrelevant to personal quality of performance.

Table 2-6

Mean Confidence of Members in Team, Trial-By-Trial Ratings

Query	Control (A)	Success (B)	Failure (C)	t of diff.
1. Will others try their best?	6.4	6.6	6.1	(A)-(C)=1.77* (B)-(C)=2.91***
2. Will team attain its goal?	5.4	5.7	5.0	(A)-(C)=2.41** (B)-(C)=4.47***

*p = <.10
**p = <.02
***p = <.01

Queries

1. Do you think others will try their best to get the score the team has decided it should be able to get? (Will not try at all - Will try their hardest)
2. How sure are you that the team will actually get the score decided on? (Very unsure - Very sure)

Coping Behavior

Changes in the level of aspiration such as those noted in Tables 2-1 and 2-2 are conceived as coping behaviors intended to minimize a threatened loss of self-esteem. Improvement of performance in order to decrease the discrepancy between performance and aspiration may also be thought of as a form of coping behavior, especially where a person has external pressures upon him which prevent him from lowering his aspirations and he may effectively reduce this gap by an improved performance. Other forms of coping behavior are less directly concerned with reducing the discrepancy between performance and aspiration, yet are relevant to self-evaluation. We now consider several of these indirect forms of coping behavior.

Accomplishment by a person on any task, and especially on a test, is perceived by him as an indicator of his adequacy in relevant abilities. A testee is interested not only in his score, but also in what the score says about his ability. Presumably, he will have a preference for a given degree of ability and expects to obtain in the task that level of performance which reveals he has the amount of ability he values. Two separate dimensions, then, are invoked by participation in a task, one a measure of performance on the task itself (the score) and the other a measure of ability (an inference by the person involved). When the testee perceives that his score is lower than the score he has aspired to reach, he may isolate the meaning of the score by reducing its relevance for his self-evaluation: denying that the score is an accurate indicator of his level of ability, or denying that the ability is an important attribute for a person to have (Hoppe, 1930). Where external agents provide social pressures upon an aspiration-setter to place his aspiration at a particular level and these inductions cause him to select a level that is higher than he can achieve, coping behavior may be directed toward reducing the effectiveness of the external agent as a source of influence by denying that the others' example is an important one to follow. The comments in this paragraph are assumed to apply equally to teams and to solo persons.

We expect greater readiness to derogate the validity of the test, the importance of the ability, or the importance of pressures from others in the failure treatment than in the success treatment, since the threat to self-esteem is greater in the failure condition than in the success condition.

Measures of coping behavior were obtained in the post-experimental questionnaire. The results for team members are displayed in Table 2-7. In the failure treatment as compared with the success treatment, team members derogated more the validity of the test, judged that it was less important to do well on the test, rated lower the importance of doing well in the ability involved in the test, and indicated that they felt it was of little importance to do as well as other teams in the school. The possibility was considered that team members might wish to reduce the threat to their self-esteem by withdrawing from the group, but four different measures provided no significant differences in the attractiveness of the teams, comparing those members in the failure treatment and those in the success treatment; nor did members in one treatment report that they felt more social pressures from peers (to do well on the test) than did members in another treatment

The solo persons were asked the same questions as those noted in Table 2-7, with minor changes in wording to fit them to individuals rather than to team members. Solos in the failure treatment were significantly different from solos in the success treatment in respect to validity of the test. The respective means were: failure, 3.0; success, 5.5; and control, 3.1; both failure and control means are significantly different from the success mean. Solo persons, however, did not derogate the importance of doing well, the importance of the ability, or the importance of doing as well as others in the school, in the failure treatment more than in the success; indeed, responses of solos on these queries tended to be in a direction opposite to those of teams. Apparently solo persons could not deny the importance of various aspects of the situation even when it might enhance their self-evaluation to do so.

Table 2-7

Attitudes Indicative of Indirect Coping Behavior
By Team Members

Query	Control (A)	Success (B)	Failure (C)	t of diff.
1. Validity of test	5.1	4.9	4.3	(A)-(C)=2.66** (B)-(C)=2.02*
2. Importance of doing well on test	4.9	5.4	4.6	(B)-(C)=3.01**
3. Importance of this ability	6.0	6.2	5.5	(A)-(C)=2.34* (B)-(C)=3.36**
4. Importance of doing as well as others in school	4.6	5.2	4.6	(A)-(B)=2.32* (B)-(C)=2.26*

*p = <.05
**p = <.01

Queries

1. Would you say that the test game-board your team used today is a good or a poor test of teamwork in muscle control? (Not very good - Very good)
2. How important is it to you for your team to do well on this test of teamwork in muscle control? (Very unimportant - Very important)
3. In your opinion, how important or unimportant is it for your team to be good at teamwork in muscle control? (Very unimportant - Very important)
4. How important is it for your team to do as well as the other teams in your school? (Very unimportant - Very important)

DEPARTMENT OF
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Project Description

Group Aspirations and Group Coping Behavior

Problem.--To determine the origins of group goals and how groups cope with an awareness that they have not achieved their goals.

Objectives.--The major objective of this study is to test the validity of the following assumptions: (1) A group sets a goal in accordance with the dynamics involved in setting a level of aspiration; (2) A group, when selecting a goal, may develop a tendency toward optimism (or pessimism) which leads it to select a more difficult (or easy) goal than previous performance would ordinarily cause it to choose; (3) Feelings of failure among the members of a group are a function of the discrepancy between actual performance and the group's goal; and (4) Groups cannot tolerate feelings of failure and therefore adopt coping behavior intended to remove such feelings and to prevent them in the future.

Procedures.--In the earlier phases of the study, groups of two and three eleventh and twelfth grade students of both sexes will be placed in laboratory situations where discussions in group situations can be observed. Later, groups will be increased to six members as observation techniques are developed and refined. In all experiments the same tasks will be used so that results may be cumulative over the several phases and so that comparisons of the effects of different conditions can be readily made. The task will be such that each person understands his contribution to be necessary for goal achievement by the group. In general, two methods of data collection will be used: standardized observations and post-experimental questionnaires. Observation of the group's performance on the task and the selection of a level of aspiration require no special devices. Observation of the group's performance on the task and the selection of a level of aspiration require no special devices. Observation of such matters as interpersonal influence attempts, overt tendencies toward optimism or pessimism or the use of coping behavior, will require especially prepared observation instruments. Post-experimental questionnaires will be used to measure private beliefs and attitudes such as personal goals, feelings of failure, or coping behavior. These questionnaires will be developed for this purpose. Standard methods of statistical analysis will be used in the reduction of the data and in testing for significance of results. Punched cards and tabulating machinery will be used in treating the data for all phases of the project.

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Project No. 1143.
Duration: 3 years.
December 1960 to November 1963.

Greater freedom in the use of coping behavior was accompanied by less tension. Team members and solo persons were asked the question: "When making shots how often did you feel that you were too tense to give your best performance?" In the failure treatment solo persons reported more tension than team members ($p < .05$).

Effects of Deviation among Members' Expectations for the Team

Within the teams some members had private expectations for the team which were at variance from the expectations of others. The team members were required to come to a unanimous agreement concerning the team's level of aspiration but the possibility remains that teams in which members usually forged their unanimity from widely disparate positions may have reacted differently during the task from teams in which members' expectations for the team were usually quite similar. Teams, for example, in which there was a wider variance among members' expectations for the group, may generate greater interpersonal friction and be less accepting of the team's level of aspiration than teams in which there was little variance among members' expectations for the team. Those teams with larger average variances in members' expectations for the team were compared with those having less variance, in respect to most of the variables discussed heretofore. There were no significant differences. Thus, it appears that variances in members' expectations for the team did not have important effects upon the reactions of team members under the separate experimental treatments. Perhaps the members' expectations for their teams were not strongly held beliefs and were easily surrendered in order to achieve the unanimity demanded by the rules of the test, and thus little strain accompanied the resolution of their differences.

Among members of the teams some more than others had expectations for the team which were deviant from the aspiration levels the team subsequently selected. We inquired whether members whose expectations for the team were greatly different from the aspirations eventually chosen by their team reacted differently from members whose expectations for the team were similar to the team's level of aspiration. The results were scattered and inconsistent, suggesting that no important differences developed in the teams as a result of the amount of deviancy between own expectation of team and the team's level of aspiration.

Finally, direction of deviancy of own expectation for the team and the team's level of aspiration was considered. Persons whose mean expectations for the team were most above the team's level of aspiration (High, N=51), those whose mean expectations for the team were most below their team's level of aspiration (Low, N=51), and those whose mean expectations were closest to the team's level of aspiration (Medium, N=99) were identified. The responses of these populations were examined.

There were no important differences in measures of evaluation and coping behavior between High, Medium, and Low team members. Thus, direction of deviation in itself had no effect.

The Highs, unlike the Mediums and Lows, however, reacted strongly and differently, depending upon whether they were in the success treatment or the failure treatment, in the indirect forms of coping behavior: how important it was to do well as other teams in the school, their judgment of the validity of the test, and their perceptions of how hard others would try (trial by trial). In these measures, members with High expectations for the team were significantly more unfavorable in their ratings in the failure than in the success treatment of the control treatment. Clearly, those with

High expectations for the team were deeply affected by success or failure. The differences in reactions to success and failure on these same measures were not significant among Medium or Low team members.

The Highs were not different from the Mediums and Lows when reacting to success and failure on evaluation of the team, on evaluation of their personal selves, or in confidence in the team's ability to reach the goal. Thus, the unique reactions of the Highs apparently are accompanied by feelings of threatened self-esteem, but not more so than in the remaining members.

We conclude that results described as indirect types of coping behavior were in good measure contributed by persons who held expectations for the team which were higher than the aspirations the teams actually selected; persons who would not cope, in short, by lowering their expectations for their team.

Summary

In order to examine the effects of certain conditions upon the selection of a collectivity's level of aspiration and the occurrence of related phenomena, teams of two different sizes and solo persons were engaged in a series of trials on a task which individuals or teams comparably perform (team members moving in unison on the same actions as individuals employed). Before each trial the experimenter reported scores to the subjects which were said to be the average scores of others (teams or individuals as the case may have been) in the school from which the subjects were selected. These alleged scores were above the levels subjects would usually achieve (failure treatment) or were below the levels subjects would usually achieve (success treatment). In a control condition no outsider's scores were reported to subjects. Before each trial subjects stated their level of aspiration for the anticipated trial--in teams these aspirations were a unanimous decision among members and followed a private judgement by each member concerning the score he expected his group to attain.

The major findings were as follows:

1. Teams and solo persons alike raised their aspirations following a performance in which they exceeded a previously set level of aspiration. But teams more often lowered their aspirations following an unexpectedly poor performance than did solo persons. Thus, teams appeared to be less optimistic following a poor performance than were individuals. Teams appeared to be more concerned with the perceived probability of attaining a given level, when setting a level of aspiration, than were solo persons.

2. The mean discrepancy between performance and subsequent levels of aspiration (the D-score) was not different for teams and solo persons.

3. D-scores were larger in the failure treatment than in the success treatment for teams, but not for solo persons.

4. Team members evaluated their teams in accord with the discrepancy between level of aspiration and performance of the team.

5. Team members judged their own personal performance in the failure treatment less harshly than solo persons judged themselves, apparently because team members could absolve themselves from personal inadequacy even though the team did poorly, and because they had social support for judging themselves more favorably--rationalizations not available to solo persons. Solo persons reported more tension during the task than did team members.

6. Team members indicated more varied tendencies than solo persons to react to an unexpectedly poor performance by derogating the importance of the ability involved in the test or the importance of doing well. Team members who expected higher scores for the team than did their team as a unit were most active in employing these behaviors.

7. The amount of variance among members' expectations for the team,the degree that a member's expectation for the team deviated from other members' expectations for the team, or the degree that a member's expectation for the team differed from the team's level of aspiration were not important determinants of evaluation of the team or of personal coping behavior.

8. Teams with three members and teams with five members were not significantly different from one another in the behavior observed.

It is clear that the selection of a level of aspiration by a collectivity can reasonably be explained in terms ordinarily used for explaining the selection of a level of aspiration by an individual, and that conditions among a set of persons may have consequences for the set's selection of an aspiration level and its way of reacting to success or failure in attaining this level of aspiration. Further study should be directed toward determining the conditions under which findings reported here are supported by introducing properties of natural groups, eliminated in the present study, to the end that we may develop an understanding of the ways in which groups choose among goals with alternative levels of difficulty.

References

Allport, F. A structuronomic conception of behavior: individual and collective. I. Structural theory and the master problem of social psychology J. abnorm. soc. Psychol. 1962, 64, 3-30.

Atkinson, J. Motivational determinants of risk-taking behavior. Psychol. Rev., 1957, 64, 359-72.

Cartwright, D. & Zander, A. Individual motives and group goals. In D. Cartwright & A. Zander (Eds.), Group dynamics: research and theory. (2nd ed.) Evanston, Ill.: Row. Peterson; London: Tavistock Publications. 1960.

Escalona, Sibylle. The effect of success and failure upon the level of aspiration and behavior in manic-depressive psychoses. In Studies in topological and vector psychology I, Studies in child welfare. University of Iowa, Iowa City, 1940., 16, February.

Festinger, L. Wish, expectation and standards as factors influencing level of aspiration. J. abnorm. soc. Psychol. 1942, 37, 184-200.

French, J. R. P., Jr. & Raven, B. The bases of social power. In D. Cartwright (Ed.), Studies in social power. Ann Arbor, Mich.: Institute for Social Research, 1959, pp. 150-67.

Hopper, R. Erfolg und misserfolg. Psychol. Forsch. 1930., 14, 1-62.

Lewin, K., Dembo, Tamara, Festinger, L. & Sears, Pauline. Level of aspiration. In J. McV. Hunt (Ed.), Personality and behavior disorders. 1944, 1, 333-78, New York: Ronald.

Osgood, C. E., Suci, G. & Tannenbaum, P. The measurement of meaning. Urbana, Ill.: University of Illinois Press, 1957.

Rotter, J. Level of aspiration as a method of studying personality. *J. exp. Psychol.*, 1942, *31*, 410-22.

Shaw, D. Size of share in task and motivation in work groups. *Sociom.* 1960, *23*, 203-8.

Zander, A. & Curtis, T. Effects of social power on aspiration setting and striving. *J. abnorm. soc. Psychol.*, 1962., *64*, 63-74.

Chapter Three

Social Influence Upon Group Aspirations[1]

Alvin Zander, Herman Medow, and David Dustin

We have observed in Chapter Two that the level of aspiration a member prefers his group to have is influenced by information about how well other groups perform. The basis for this influence, we assume is referent social power, the desire to be like specific (referent) others (French and Raven, 1959).

The present study is a modest supplement to that prior one. We examine whether the aspiration a member prefers for his group will be affected if he is directly urged by persons outside his group to have his group attain a particular score. Will such a request when accompanied by potential sanctions (reward for success or punishment for failure) have a stronger effect than a request not supported by sanctions?

Members of a group who communicate with one another are more likely to exert mutual pressures about appropriate beliefs or behavior than members who have little opportunity for communication. On a group task, particularly a test in which the group's score can be rated against a standard of excellence, these pressures may be expected to encourage greater effort among members and to generate stronger desires in them to do well. Assuming, as does Atkinson (1957), that greater motivation increases the likelihood of choosing a level of aspiration in the intermediate range of difficulty rather than a very easy or very difficult level, members who communicate with one another should have less variance in their aspirations for the group than those who do not communicate. It also follows, that members who communicate with one another should be less influenced by external inductions when choosing aspirations for the group than members who do not communicate.

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[1] We are grateful for the help of John Erfurt during the administration of this experiment.

During the study described in Chapter 2. the group's scores were erratic from shot to shot. These erratic scores introduced an uncontrolled amount of discrepancy between the group's score and the average of other groups who had already taken the test, and thus may have caused members to believe that good luck rather than good skill was the important determiner of a good score. If so, group members would not have believed that their group's score was a reliable predictor of future performance. In the present study, therefore, all teams "earned" exactly the same scores during the series of trials and thus all had scores which were equidistant from the ones requested by agents outside the group.

Method

Subjects

Sixty-four teams composed of three 11th or 12th grade boys were assigned to the experiment by a school official. An empty classroom was used as the laboratory.

Task

The task is described in Chapter 2. In order that each team achieve the same scores, a screen was placed over the board which prevented the participants from seeing how well their team actually did. After each trial the experimenter announced the score obtained by the group. These were prearranged scores with a mean of 35.50. Each group had ten trials.

The task was introduced to the subjects as a test of "team muscle control," being given at this school as a part of nation-wide testing program on physical fitness. The screen was used, it was said, because this research was interested in the nature of muscle control when participants receive only indirect measures of their group's output--a common occurrence in group activities such as military mortar fire, industrial assembly lines, and the like.

Experimental Conditions

Three experimental conditions, Referent, Reward and Coercive, following bases for social power proposed by French and Raven (1959) were created, plus a Control condition. Sixteen groups were in each. To create these conditions, all subjects alike were told that their teachers and athletic coaches had selected three male students to oversee the testing program on team muscle control. These three students constitute the Standards Committee. The names of the members of this committee could not be made public until later, it was said, but the three had been chosen on the basis of their popularity in school, their good judgment, and their leadership among students. Their ability in athletic events was described as average. These comments were emphasized in order to establish that the members of the Standards Committee were attractive persons in the school community, but not highly skilled in the test at hand, who might therefore be referent models in most aspects of school life.

Subjects in the Referent condition were told that the Standards Committee had asked the experimenter to announce the scores they had obtained on each trial before the team attempted that trial. The Standards Committee, furthermore, urged each test team to do as well on the test as the Standards Committee had done. In this treatment, and the following ones, the mean Standard Committee score was reported to be 41.50, that is, about six points higher than the test team's alleged score.

Subjects in the Reward condition were told the same things as those in the Referent condition just noted; in addition, the Standards Committee would list the members' names and the scores of all the teams who performed as well as the Standards Committee had done and would publish this list in the school newspaper.

Subjects in the Coercive condition were told the same things as those in the Referent condition; in addition, the Standards Committee would list the members' names and scores of all teams who performed less well than the Standards Committee and would publish this list in the school's newspaper.

Subjects in the Control condition were not told the scores obtained by the Standards Committee. They were informed that the committee would list the members and scores of all teams but nothing was said about the use to be made of this list or the level of performance expected by experimental teams.

It should be noted that all teams failed on all trials to do as well as the Standard Committee represented for them, except in the Control condition where subjects had no external criteria of failure proposed for them.

Communication versus Non-communication

Before each of the even-numbered trials, subjects were asked to write a brief comment in answer to the question: How do you feel now about how things in general are going? In the Communication condition the participants were asked to pass their notes to one another. In the Non-communication condition participants were asked to give their notes to the experimenter without allowing colleagues to see what they had written. In both conditions participants were not allowed to talk to one another during the test.

The results in the separate communication conditions were not greatly different. Thus, the data from the two will be pooled when considering the differential effects of the separate bases for social power. Apparently the effects of communication were restricted by the infrequent messages and the requirement that only one message be written on five separate occasions. These rules perhaps allowed little true interpersonal interaction so that mutual social pressures did not fully develop.

Measures

Prior to each trial, team members privately completed a ballot indicating what score they believed their group would attain on the next trial. This is the member's aspiration for the group. The experimenter computed a mean of the three private ballots and announced it as the group's aspiration.

After the final trial the subjects completed a post-experimental questionnaire given to them with the explanation that their comments would help the testers to improve the test. All queries were seven-point rating scales.

Finally, the true purposes of the experiment were explained and the nature and reasons for any deceptions were given to subjects. Appropriate assurances were made and the subjects were requested not to discuss the test with schoolmates until the testing in the school was completed.

Results

Perception of Experimental Treatments

It is useful to determine whether participants understood the instructions as it was intended they should. Queries used for this purpose in the post-experimental questionnaire are shown in Table 3-1.

In each experimental condition the subjects perceived that the Standards Committee contained persons they would like to emulate, but only in the Reward condition was the Standard Committee significantly more attractive than in the Control condition (see first row of Table 3-1). Subjects correctly viewed the Reward condition as offering a potential reward and the Coercive condition as offering a potential punishment, see rows two and three of Table 3-1. The greatest potency was attributed to the Standards Committee in the Referent condition. Potency was measured by the semantic differential method (Osgood, Suci, Tannenbaum, 1957) on the four scales noted in Table 3-1.

Table 3-1

Subjects' Perceptions of Standards Committee

(N = 48 in each condition)

	Control (A) $\bar{X}$	Referent (B) $\bar{X}$	Reward (C) $\bar{X}$	Coercive (D) $\bar{X}$	_t_ of diff.
Desire to be like Standards Committee[a]	4.8	5.1	5.4	5.0	A-C=2.56*
Desire to get name on list[b]	4.8	5.0	5.6	3.4	A-C=2.46* A-D=4.28** B-D=4.84** C-D=6.44**
Name on list, rewarding[c]	5.0	4.9	5.1	3.6	A-D=4.81** B-D=4.32** C-D=4.89**
Potency of Standards Committee[d]	4.1	4.4	4.1	4.0	A-B=2.44* C-B=2.54* D-B=2.97*

a. How much do you think most people would desire to be like or unlike the student committee members as persons? (Unlike very much-like very much)

b. How much would you like or dislike getting your name on the student committee's list? (Dislike very much-Like very much)

c. In your opinion, how rewarding or punishing is getting one's name on the committee's list? (Very punishing-Very rewarding)

d. Four semantic differential scales: strong, weak; deep, shallow; heavy, light; hard, soft.

* _p_ < .05, two-tailed

**_p_ < .01, two-tailed

Aspirations for Group

Because the Standards Committee made similar requests of the test-teams in all conditions and because the teams' performance scores were similar in all conditions, any variation in members' aspirations for their group is due to differences in the influence of the Standards Committee in the separate conditions. It can be seen in Table 3-2 that individual members' aspirations for their group were higher in all experimental conditions than in the Control condition. In the Reward and Coercive conditions the aspirations were significantly higher than in the Control condition. The aspirations, moreover, were higher in the Reward condition than in the Referent one. The influence of the Standard Committee's potential reward or punishment upon aspiration for the group, it is worth noting, was consistent throughout the series of ten trials, whereas the influence of the referent model was weaker in the later trials than in the earlier ones.

Table 3-2
Member's Aspirations for Group
(N = 48 in each condition)

	Control (A)	Referent (B)	Reward (C)	Coercive (D)	
	$\overline{X}$	$\overline{X}$	$\overline{X}$	$\overline{X}$	
Mn. aspiration for group	37.66	38.56	39.25	39.05	A-C=3.73** A-D=3.28** B-C=2.25*
Degree future aspiration exceeds past performance (D-score)[a]	2.16	3.06	3.75	3.55	--
Influence index[b]	--	.90	1.59	1.39	--
Degree group aspiration below induction from Standards Committee[c]	3.84	2.94	2.25	2.45	--

a. Mn. group performance, all conditions = 35.50

b. Degree D-score in experimental treatments exceeds D-score in control treatment

c. Mn. induction from Standards Committee, all conditions = 41.50

* $p < .05$

** $p < .01$

Changes in group aspirations have been observed to follow a rule, "succeed, raise; fail, lower." That is, a performance exceeding a prior aspiration is followed by a raise in aspiration level and a performance below a prior aspiration is followed by a drop in aspiration level. The changes in aspiration for group are summarized in Table 3-3. It is evident that the rule is strongly supported in these results. Adherence to the rule was not significantly different among the separate conditions of power.

Table 3-3

Direction of Changes in Member's Aspirations for Group

Performance of group on trial k is:	Member's aspiration for group on trial k+1 is: Raised	Lowered	Kept same
Below group's aspiration for trial *k*	107	230	118
Equal or above group's aspiration for trial *k*	173	4	8

$X^2 = 244.60$, $p < .0001$

Evaluation of Performance

Although all teams had earned exactly the same scores on comparable trials, it is evident in Table 3-4 that members in the Reward condition were significantly more dissatisfied with their team's performance than members in the Control condition. The rating of satisfaction with team was correlated with the mean discrepancy between prior aspiration and subsequent performance over all trials. In the Reward condition this correlation is $r = -.43$ ($p < .01$), whereas in all other conditions this r is virtually zero. Thus, it appears that aspirations for the group were taken as criteria for appraisal of the group's performance in the Reward condition more than in the Control condition.

Table 3-4

Evaluation of Team and Personal Performance
(N = 48 in each condition

	Control (A) $\bar{X}$	Referent (B) $\bar{X}$	Reward (C) $\bar{X}$	Coercive (D) $\bar{X}$	t of diff.
Satisfaction with team's perf.[a]	3.95	3.45	3.28	3.47	A-C=2.16*
Evaluation of personal perf.[b]	4.00	3.44	3.73	3.81	A-B=2.29* B-D=1.74*
Worry about performance[c]	4.62	4.27	5.12	5.30	A-D=2.19* B-C=2.51* B-D=3.12**

a. How satisfied or dissatisfied do you feel with your team's performance on the test? (Very dissatisfied - Very satisfied)

b. Considering everything, how well do you think you personally did on the test? (Very poorly - Very well)

c. How frequently or infrequently did you notice yourself becoming worried during this testing session? (Very infrequently - Very frequently)

* $p < .05$, one-tailed test

** $p < .01$, one-tailed test

Members in the Referent condition evaluate their own personal performance lower than those in any other condition, significantly lower than those in the Control and Coercive conditions (See Table 3-4). Thus, members in the Referent condition appear to be most ready to accept their group's level of performance as a reliable indicator of their personal competence.

Other Reactions to the Test

Subjects in both the Reward and Coercive conditions described themselves as more worried during the test than subjects in the Control or

Referent conditions (See Table 3-4). Worry seemingly is generated more by the external agent's ability to impose sanctions than by the group's failure to fulfill the expectations imposed upon it. There were no differential tendencies in separate conditions to avoid the situation as shown by their derogation of the test, the ability measured by the test, or the effort of teammates.

Effects of Communication among Members

There is evidence that the communicating groups were more motivated than the non-communicating ones to do well on the task: (a) they more often felt that teammates tried hard on the test ($\underline{p} < .05$), (b) more often judged themselves to be too tense to shoot well ($\underline{p} < .05$), and (c) the content of their messages were more often concerned with plans to do well and with exhortations to do well ($\underline{p} < .01$). But amount of communication had no significant effects upon mean group aspiration levels, although greater communication had no significant effects upon mean group aspiration levels, although greater communication generated a weak tendency toward higher group aspirations and somewhat greater variance rather than less variance in the levels of aspiration proposed for the group ($\underline{p} < .10$), This last finding is contrary to our prediction and suggests that communication may have stimulated a fear of failure rather than a hope of success, since members with fear of failure usually have more variance in their aspirations for their groups; and we recall these subjects were all in failing groups. Thus, the motive noted above may have been to avoid failure rather than to approach success.

Communication among members determined the nature of their reactions to the performance of their group. The notes written by members in the Non-communication condition were more often concerned with evaluative comments (both favorable and unfavorable) and with speculations about the quality of the group's performance than the notes written by those in the Communication condition ($p < .01$). The correlation between D-score and satisfaction with team, moreover, was -.23 ($p < .05$) in the Non-communication and -.08 in the Communication condition. Assuming that negative evaluation indicates that greater weight is attached to aspiration for the group as a criterion for judging its failure, and given that all teams "performed" relatively less well than they anticipated, we conclude that members in the Non-communication condition used the group's aspiration as a criterion of proper performance more than did those in the Communication condition.

In sum, members of groups who had greater interpersonal communication were apparently more motivated to do well and were less willing to consider a poor performance as a failure.

Discussion

Returning to the questions posed in the opening paragraphs of this chapter, it is evident that direct requests made of a group to attain a particular score will modify the aspirations members prefer for their group, just as does information members possess about how other groups perform on the same tasks. The offer of a reward or the threat of a punishment by attractive referent persons, moreover, makes the request more influential than a request unaccompanied by an explicit sanction. We must bear in mind, however, that these results are from groups who failed on all trials. It remains to be seen whether the same results apply to groups who have mixed successes and failures or consistent successes.

The results on evaluation of performance indicate that members in the Reward condition more often used the group's aspiration as criteria for evaluating the group performance than did members in the other conditions. Members in the Referent condition more often used the group's score in evaluating personal performance than did members in other conditions.

This last result is in accord with previous findings that members rate their own ability in accord with the group's score the more they are identified with the group (Zander, Stotland, Wolfe, 1960).

Summary

Sixty-four teams engaged for ten trials in the task described in Chapter Two. In this instance, however, scores were controlled so that they were the same for all groups.

The members of each team were told that a so-called Standards Committee requested a certain level of performance from them. This request was based on Referent power, Reward power, or Coercive power. In a Control condition groups were not requested to perform at any specific level. None of the groups consistently performed as well as they were asked to do or aspired to do.

One half of the teams were allowed to communicate among members by written notes five times during the experimental session. The other half of the teams wrote notes but these were not passed among members.

The major findings were as follows.

1. Members' aspirations for their group were more affected by the requests from external agents in the Reward condition than in any other condition.

2. Members in the Reward condition were more dissatisfied with their group's performance than those in any other condition and state that they were more worried during the test.

3. Members in the Referent condition rated their own personal performance lower than in any other condition.

4. Members among whom communication was more frequent were apparently more motivated to avoid failure on the test and were less willing to consider a poor performance to be a failure.

References

Atkinson, J. W. Motivational determinants of risk-taking behavior. Psychol. Rev., 1957, 64, 359-372.

French, J. R. P., Jr., & Raven, B. The bases of social power. In D. Cartwright (Ed.), Studies in social power. Ann Arbor, Mich.: Institute for Social Research, 1959.

Osgood, C., Suci, G., & Tannenbaum, P. The measurement of meaning. Urbana, Ill.: University of Illinois Press, 1957.

Zander, A., Stotland, E., & Wolfe, D. Unity of group, identification with group and self-esteem of members. J. Pers., 1960, 28, 463-478.

Zander, A., & Curtis, T. Effects of social power on aspiration setting and striving. J. abnorm. soc. Psychol., 1962, 64, 63-74.

Chapter Four

Observers' Expectations as Determinants of Group Aspirations[1]

Alvin Zander, Herman Medow and Ronald Efron

Theories of group behavior are often developed on the broad assumption that members' motives uniformly stimulate efforts toward a group goal. Beyond this assumption, however, the theories seldom make specific use of the concept group goal and relatively little attention is devoted to speculation about the motivational aspects of groups. A more complete understanding of the origin, nature and consequences of group goals is needed.

One approach toward meeting that need has been made in Chapter Two by assigning a restricted meaning to the term group goal, the group level of aspiration. A group level of aspiration is an expectation agreed upon by a number of persons concerning the level of performance their group can realistically achieve in the future. It is reported in Chapter Two that persons who work in collaboration on a common task and obtain a single score for the group select a group level of aspiration and change that level on subsequent trials much as level of aspiration theory (Lewin, Festinger, Dembo, Sears, 1944; Atkinson, 1957) would lead one to expect. Members, moreover, state an unrealistically high level of aspiration if they learn that other groups typically score better on the task than their own performance and an unrealistically low level if the other groups score worse than themselves; unrealistic, in the sense that the aspiration is strikingly different from their previous level of performance.

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We are grateful for the assistance of Dr. Josef Nuttin, Louvain University, Belgium, during the administration of this experiment.

In the present study we examine the effect of the social environment upon the level of a group's aspiration when the members are informed of the score those in another group expect (i.e. predict) that the performing group will attain. The question is whether a knowledge of the others' expectation generates a bias in the group's aspiration. The influence of the others' expectation is likely to be greater under certain conditions. We observe the effect of one of these conditions, the degree that the others are dependent upon the performing group. Does the others' expectation have more influence upon the group's aspiration when the others are dependent on the performers?

Additional issues studied in this experiment are the following: Is the group's level of aspiration, and especially one influenced by the others' expectations, a meaningful criterion for evaluating the group's performance or is it an empty statement made by the performing group members in order to be agreeable? How do the members of the two groups, performers and others, feel about one another? What level of expectation does the other group develop for the work of the performers and what conditions determine that level?

Rationale of Study

For convenience in exposition those who work on the group task are designated as performers, Ps, and those in the other group as observers, Os. The Ps are said to set a group level of aspiration and the Os to set expectations for the Ps' performance.

Performers. Suppose that the Ps work collaboratively on a group task for a series of trials. After each trial they learn their team's score and are asked to decide via group discussion what score they unanimously "believe they will be able to achieve on the next trial." This decision is the group's level of aspiration. We assume that Ps select that group score which has the greatest resultant valence to them. This resultant valence in turn is determined by the perceived probability that the team can achieve that score times the satisfaction from doing so. The satisfaction anticipated from achieving a given level of difficulty onthe task is assumed to be inversely related to the perceived probability of achieving it (Atkinson, 1957).

As the level of the group's performance changes from trial to trial, the perceived probability of attaining each of a number of scores also changes. When the performance is equal to or better than the prior level of aspiration for that trial, the level of aspiration for the next trial is raised, and when the performance is worse than the prior level of aspiration, the next level of aspiration is lowered. The rule in brief is "succeed, raise; fail, lower." We anticipate, as in Chapter Two, that Ps will develop close adherence to this rule. We furthermore expect that Ps' mean level of aspiration over a series of trials will be slightly higher than their mean score, a common finding in studies of aspiration setting.

Suppose, prior to their group decision about a group level of aspiration, the Ps are given a message indicating what score the Os "unanimously believe the group will be able to attain on the next trial," and that these expectations are different from the aspirations separate Ps prefer their group to have. Our prediction is that Os' expectations will bias Ps' group aspirations because the unanimous judgment of a group of observers will be given at least some weight in the group discussion among Ps. Specifically, groups of Ps who receive higher expectations from Os will select higher aspirations than those who receive low expectations from Os. These aspirations moreover will be different from those set by Ps who receive no expectations from Os.

Suppose, further, that Os have a legitimate vested interest in the score obtained by Ps because Os will be rewarded if the Ps perform well. The Os, in short, are dependent on Ps. The perception among Ps that Os are in a dependent relationship generates in Ps a force toward being responsible for facilitating the achievement of Os. The arousal of a responsibility force in a dependent relationship has been reported by Pepitone (1952), Thomas (1957), and Berkowitz & Daniels (1963). A responsibility force on Ps, who perceive that it originates in Os, stimulates a desire to behave in ways expected by the Os. Thus, we anticipate that Ps' aspirations will be more influenced by the expectations of Os as noted above, when Os are highly dependent on Ps (HiDep) than when Os are less dependent (LoDep)

Even if Os' expectation influences the level of Ps' group aspiration, there is the possibility that this aspiration is stated out of courtesy, a desire to be agreeable, or a readiness to conform, but may not function as a level of aspiration. A level of aspiration, as defined by Lewin et al. (1944) and English & English (1958) is a criterion for evaluating the success or failure of a performance. Whether Ps' stated group aspiration serves them as a criterion of evaluation, therefore, may be examined by determining if a group performance below a prior level of aspiration is judged unfavorably and a performance equal or above the level of aspiration is judged favorably.

Coping behaviors by group members are actions intended to maximize a favorable evaluation of their team's performance. These behaviors include attitudes derogating the importance of the ability being tested, the validity of the test, and the value of a good performance, when the performance of the team has been poor, and approval of such matters when the team's performance has been good. Coping behaviors are expected to have similar instrumental value in the present experiment.

It is not possible to anticipate with confidence what Ps' reactions will be toward Os since several matters may differentially influence these interpersonal relations. A high expectation, for example, may be viewed by Ps as much too high and thus generate rejection of Os while a low expectation is seen as achievable and generate approval of Os; or, a high expectation may be taken as a favorable evaluation of Ps and generate a favorable attitude toward Os, while a low expectation is taken to be an unfavorable evaluation of Ps and create an unfavorable reaction to Os. The dependency of the Os, moreover, may determine what Ps consider to be an appropriate level of expectation. Ps may, for example, believe that Os should avoid stating a low expectation in a HiDep relationship.

Observers. Os do not engage in any of the work required by Ps' task. Instead, they observe the actions and the scores obtained by Ps for each trial and, via group discussion, reach a unanimous decision concerning the score they "believe Ps will be able to attain" on the next trial. This decision by Os is their group expectation.

Conceptually this decision is similar to the agreement reached by a policy committee, a production control council or any other group who must settle upon a level of performance that persons other than themselves can realistically attain. What determines the level of the expectation stated by Os? The Os have the same data available to them as do the Ps and conceivably can select that level of expectation with the greatest resultant valence, which in turn is determined by the perceived probability that Ps will achieve that score times the satisfaction Os anticipate from having Ps do so. Os' terms of reference in choosing a group level of expectation then can in principle be the same as Ps' terms of reference in choosing a group level of aspiration. As Ps' performance changes from trial to trial, it follows, the resultant valence of separate levels of achievement should change and Os' expectations about Ps' future performance should change.

Imagine that, prior to their group discussion about Ps' future score, the Os obtain information indicating what score other teams ordinarily attain on this task. We predict that information about the scores earned by other teams will bias the level of the expectations stated by Os, that Os will assign higher expectations to Ps when told that other groups perform better than Ps.

Suppose some Os are led to believe that they will share in a prize with Ps if Ps are one of the better groups engaging in the task, a relationship of high dependency upon Ps (HiDep). In contrast others are told that they are not eligible for the prize, a relationship of low dependency upon Ps (LoDep). We anticipate that Os will perceive an attainment of a high score by the Ps to be more attractive in the HiDep condition than in the LoDep one. Thus, Os will state that they expect a higher attainment by Ps in the HiDep condition than in the LoDep one.

If Os' expectations are based upon the same terms of reference as Ps' levels of aspiration, they may serve as criteria for evaluation of Ps' performance. That is, Os will give lower evaluations to scores lower than Os had expected and higher evaluations to scores above Os' expectations.

Method

Subjects

Participants were 288 eleventh and twelfth grade boys from two high schools in different communities. They were assigned to participate in this experiment, six boys at a time, randomly selected, by a local school official. A vacant room in the school building was the laboratory.

Experimental Task

The experimenter (E) introduced himself as an employee of the University Testing Service (a fictitious organization) and explained that he was working on a nation-wide survey to test students' ability in "teamwork in muscle control." The importance of this ability was stressed by describing activities in which teamwork and control are needed by groups in modern life.

The subjects were told that three of them at the outset would serve as examinees on the survey while the other three would serve as observers. Both the Ps and the Os, they were informed, were separately to decide upon the score they expected the Ps would be able to attain on the next trial, that this was useful information for the survey but that Subjects would not be evaluated on the accuracy of their estimates.

The nature of the experimental task was explained and Ps were asked to make 15 practice shots (5 shots equal one trial), while the Os looked on. There were no significant differences among the mean scores for the practice trials in the separate conditions. The task was the board described in Chapter Two.

Experimental Condtitions

Dependency. To create an awareness in Os and Ps alike that Os were dependent upon Ps (HiDep), the Os and Ps were informed that the survey-test was being administered to a number of teams in this school. The teams who earned scores in the highest twenty percent would receive a prize of $5.00 per member. The Os would share in this prize if the Ps did well enough. To create low dependency (LoDep), Os and Ps were told that Os were not eligible for the prize but that Ps were. The Os would be eligible, however, on a subsequent occasion. The last comment was added in order to create the perception that although Os were temporarily being deprived this would not be so at a later period in the testing.

Pepformers. The forty-eight groups of Ps were instructed that they were to perform as well as they could on a series of trials (total number unspecified) and that they were to state what score they believed they were able to attain before each trial. These aspirations were to be a unanimous decision of the group, attained in free discussion as in Chapter Two.

Level of Os' expectations received by Ps. Within HiDep and LoDep two thirds of the performing groups received messages which were alleged to be the expectations of the Os, while one third received no messages from Os (control). For one third of the performing groups the levels of these (alleged) expectations were about four points higher than the Ps would ordinarily attain (high expectations, Mn.=40.4). For another one third of the groups the levels of these expectations were about four points lower than the Ps would ordinarily attain (low expectations, Mn.=32.5).

Observers. The forty-eight groups of Os were informed that their primary task was to reach a unanimous decision on the score they expected Ps would be able to attain on each trial. They were to do this in free discussion and were to observe the scores obtained by Ps on each trial. Two other variables were introduced as follows.

Norm provided by E. Within HiDep and LoDep two thirds of the groups of Os were given information prior to each trial about the average scores that other teams in this school had attained (a fictitious standardized set of scores) and another one third of the groups of Os were given no such information. The norm provided by E was about four points higher than Ps were likely to attain (Mn.=40.4). The information was offered to Os to determine if it would bias the expectations made by Os. It was considered sufficient for this purpose to provide a high norm and no contrasting low norm was provided.

Reporting of expectations. Within HiDep and LoDep two thirds of the groups of Os were told that their expectation was to be communicated to Ps and another one third were told that their expectation would not be given to Ps. In the reporting treatment, E pretended to deliver Os' expectation to Ps before the latter had decided upon their group aspiration for each trial. Os' actual expectations were not reported to Ps, but instead standardized expectations were substituted as described above.

In summary, within HiDep and LoDep there were three separate conditions for Os: (i) high norm from E, report expectation to Ps; (ii) no norm from E, report expectations to Ps; and (iii) no norm from E, do not report expectations to Ps.

Measures

Performance was measured by the score on each trial and the mean score over ten trials.

After the tenth trial, subjects were informed that there was to be an interruption in work so that they might give their reactions to the experience thus far; their responses it was said, would be used to develop a better understanding of teamwork in muscle control. The questions, all seven-point Likert-type rating scales, concerned evaluation of their team's performance, ratings of the validity of the test and the importance of the ability involved, as well as other queries intended to measure coping behavior. These queries are described in appropriate places in the discussion on the results.

Following administration of this questionnaire, subjects were told that the experiment was finished and were given an explanation of the purposes and methods of the study. Their questions were answered and care was taken to assure all participants that they had done well. Subjects were requested to conceal the nature of the experiment from schoolmates.

Validation of Experimental Conditions

Most of the experimental variables depended upon contrasts in behavior by participants and therefore require no check upon whether subjects preceived them as intended. HiDep and LoDep, however, were created by instructions and it is useful, therefore, to establish whether subjects understood and believed these instructions.

Three queries were used in the post-experimental questionnaire to determine if Ps perceived Os as dependent upon them. These were modified from queries that had been successfully used by Thomas (1957) for this purpose. First, the Ps were asked to express their degree of agreement with the statement: "The observers wanted the shooters to get a score good enough to win the prize as much as the shooters did." Second; they responded to: "How interested do you think the observers were in how you were performing?" Third: "How important is it for you to do as well as the observers expected you to do?" In the HiDep condition Ps perceived that Os were more eager for Ps to do well, were more interested in Ps' scores, and felt more strongly that the Ps should do as well as Os expected, than did Ps in LoDep; all three p values being better than .001 by F test. These results suggest that Ps perceived Os as more dependent in HiDep than in LoDep.

Comparable questions were addressed to the Os: (a) exactly the same question as the first one above, and (b) "How much do you want the shooters to get a score good enough to win the prize?" The results were comparable to those for Ps; Os were more interested in the performance of Ps and wanted them to do well, in HiDep more than in LoDep, both p values better than .001 by F test.

Results

The Performing Group's Aspirations

We anticipated that Ps would change their group aspirations trial by trial in accord with the rule, "succeed, raise; fail, lower." To test the degree that shifts adhered to this rule we examine the changes over all trials when (a) their score is poorer than the level of aspiration chosen by the group for that trial, and (b) when their score equals or exceeds the aspiration for that trial. These results are shown in Table 4-1. It is clear that they strongly support the rule.

Table 4-1

Direction of Shifts in Performing Groups' Aspirations

		Ps' aspiration for trial k+1 is:		
Ps' score for trial k relative to Ps' aspiration for k	N of trials, 480[a]	Raised	Lowered	Kept same
Score below aspiration	237	34	114	89
Score equals or exceeds aspiration	243	159	8	76

$X^2 = 174.15, p < .001$

[a] Forty-eight groups, ten trials each

The level of the expectations stated by Os had an impact upon the changes in group aspirations. Shifts were less often in accord with the rule where opposing pressures were created by Os' expectations. When O's provided low expectations, Ps were less likely to follow the "succeed, raise" part of the rule ($X^2 = 5.87$, $p < .05$). When Os provided high expectations, Ps were less likely to follow the "fail, lower" part of the rule ($X^2 = 3.83$, $p < .06$). Adherence to the rule was not significantly different, however, when comparing the frequency and direction of shifts in the HiDep and LoDep conditions.

The influence of Os' expectations upon Ps' aspirations can also be seen in the mean level of aspiration chosen by Ps. Ps more often selected unattainable aspirations when Os' expectations were at a high level and attainable aspirations when Os' expectations were at a low level. In contrast, Ps selected aspirations they achieved or failed to about an equal degree when Os provided no expectations. Results relevant to these issues are shown in Table 4-2. They leave little doubt that Ps' aspirations were influenced by the level of Os' predictions.

The proportion of trials in which Ps were successful in achieving or exceeding the levels of aspiration they had chosen (shown in Table 4-2) provides a basis for estimating, after the fact, the probability Ps had of attaining the aspiration levels they selected. Thus, it can be seen that Ps who were provided low expectations by Os chose aspiration levels with a .62 probability of attainment, Ps who were provided high expectations chose aspirations with a .43 probability (p of difference between last two $<.01$), while those given no expectations chose levels with a .47 probability (i.e., slightly more difficult than the 50-50 level of probability).

Table 4-2

Relative Success of Performers in Attaining Aspiration of Group

Observers send performers:	Perf. group score equals or exceeds own aspiration, trials	Perf. group score below own aspiration, trials	Percent success[a]
	N of trials = 480		
High level expectation	69	91	43
No expectation	75	85	47
Low level expectation	99	61	62

$X^2 = 12.7, p < .01$

[a] Percent success; no expectation vs. low expectation, $t = 2.91$, $p < .01$; no expectation vs. high expectation, n.s.

The D-score for Ps is the discrepancy between a given score on trial k and the group aspiration stated for trial k+1. The mean performance scores and mean D-score are summarized for Ps in Table 4-3.

Note first that the mean performance scores were not significantly different despite the separate levels of Os' expectations. Ps, however, earned somewhat better scores in HiDep than in LoDep (t of diff. = 1.77, $p < .10$). The mean scores were essentially the same throughout all trials in the series.

The mean D-scores made by Ps when they received no expectations from Os (middle row of Table 4-3) illustrate a common tendency for an aspiration level to be placed somewhat above the performance score. Where Os provided high expectations, the D-scores were significantly larger than where Os provided low expectations, and the D-scores in the latter condition were significantly smaller than in the control condition. Ps' D-scores were fairly similar in the HiDep and LoDep conditions.

Table 4-3

Performing Groups' Scores and D-scores[a]

Observers send:	Mn. Ps' performance score	Mn. Ps' D-score
High expectation	37.55	2.05
No expectation (control)	37.00	1.50
Low expectation	37.65	.13
t, diff., Hi vs. Lo	n.s.	2.47**
t, diff., No vs. Lo	n.s.	1.85*

[a] Groups' mean level of aspiration equals mean performance score plus mean D-score.

*p = < .05

**p = < .01

We conclude that Ps' group aspirations were influenced by the level of their group's score, variations in that score, and the level of the expectations expressed by Os. The impact of Os' expectations upon Ps aspirations was equally strong regardless of whether Os were dependent on Ps or were not dependent on them.

Evaluation of Team's Performance by Ps

Ps were asked, in the post-experimental questionnaire, to rate their degree of satisfaction with their group's performance on the group task. The query was: "All in all, how well do you think the shooters did on the test-board?" The mean ratings on this question were not significantly different in the separate conditions of the experiment.

We are interested in whether Ps use their group aspirations as criteria in evaluating the scores obtained by their group. If they are doing so, we should find a significant negative correlation between their evaluations of their team's performance and their D-scores. Where Ps were given high level expectations by Os the correlation is -.74 ($p < .05$); low expectations by Os, $\underline{r} = +.11$ (p = n.s.); and no expectations by Os, $\underline{r} = -.16$ (p = n.s.). The correlation of -.74 suggests that Ps become more sensitive to the quality of their team's performance when their scores are lower than Os' expectations and that the aspirations they develop in that condition have greater significance for them in deciding whether they have performed poorly or well. Finally, the correlation between evaluation of the team and D-score was -.35 ($p < .05$) in HiDep and -.22 (p = n.s.) in LoDep. These correlations are not significantly different and indicate a tendency for Ps' aspirations to be used as an evaluative criterion where Ps felt more responsibility toward Os to do well on the task.

Performers' Attitudes toward Observers

The presence of the Os in the room with Ps and the fact that Os were discussing the output by Ps after each trial, doubtless meant to them that Os not only were settling upon expectations for the next trial but also were evaluating Ps' work on preceding trials. To some degree, therefore, Ps were likely to view expectations by Os as estimates of Ps' competence. Ps' attitudes toward Os can be assumed to be reactions to more than non-evaluative expectations stated by Os.

In the post-experimental questionnaire Ps were asked to give ratings relevant to their attitudes toward Os in four areas: evaluation of the Os as judges of expectations, motives of Os in stating expectations, effect of the Os upon Ps, and the appropriateness of Os' functions. The mean responses on these queries for each level of Os' expectations are shown in Table 4-4.

Table 4-4

Attitudes of Performers toward Observers

(N in each column = 24)

	Level of Os' expectation			
	High (A)	None (B)	Low (C)	*t*, diff.
	$\bar{X}$	$\bar{X}$	$\bar{X}$	
Evaluation of Os				
a. Accuracy of Os?[a]	4.3	4.7	3.4	A-C=2.74 **, B-C=4.36 ***
b. Os good judges?[b]	4.7	NA	3.3	A-c=5.32 *** --
c. Care taken by Os?[c]	4.4	NA	3.5	A-C=2.94 ** --
Motives of Os				
d. Os desire Ps to win?[d]	4.0	3.9	3.5	A-C=3.21 **, B-C=3.21 **
e. Os' interest in Ps score?[e]	5.5	5.7	5.1	A-C=n.s. , B-C=2.15 *
Relations of Os and Ps				
f. Os helpful to Ps?[f]	4.0	NA	3.2	A-C=2.10 * --
g. Os influential re Ps?[g]	4.2	3.9	3.6	A-C=1.82
h. Confidence of Os in Ps?[h]	5.0	4.4	3.8	A-C=4.30 ***, A-B=2.00 *
Proper functions of Os				
i. Os in better position to be accurate than Ps[i]	2.3	2.6	1.9	A-C=1.85 , B-C=3.10 **
j. Os should report expectations[j]	3.8	3.1	3.7	A-B=3.20 ** , B-C=2.79 **

* p = < .05

** p = < .01

*** p = < .001

a. How accurate do you feel were the expectations of the observers?
(Very inaccurate - Very accurate)

b. How good do you think the observers were as judges of the shooters' ability?
(Very poor - Very good)

c. How much thought do you think the observers gave to deciding what they expected you to get?
(No thought at all - A great deal of thought)

d. The observers wanted the shooters to get a score good enough to win the prize as much as we did.
(Strongly disagree - Strongly agree)

e. How interested do you think the observers were in how you were performing? (Very uninterested - Very interested)
f. How helpful were the observers? (Not at all helpful - Very helpful)
g. How much influence did the observers have on the goals you set? (No influence - A great deal of influence)
h. How much confidence do you think the observers have in your ability as performers? (None - A great deal)
i. The observers are in a better position to estimate the score the performers will get than the performers are. (Strongly disagree - Strongly agree)
j. Observers should tell us their expectations because it makes for the setting of more accurate goals. (Strongly disagree - Strongly agree)

In summary, Ps were less favorable toward Os in each of these areas the lower the expectations provided by Os, and Os who sent low expectations were less approved than those who sent no expectations. These results suggest that Ps viewed the expectations from Os primarily as evaluations of Ps' competence on the test, rather than viewing high expectations as unduly difficult demands or low expectations as sympathetically easy requirements.

The level of expectations made by Os was the major source of coping behavior for Ps since Ps had few affective reactions to other aspects of the situation; queries about their attitudes toward separate parts of the experimental experience produced no significant differences in the different conditions of the experiment.

The Observers' Expectations

The Os made a group decision about the score the performing group would be able to attain for each of the ten trials. These expectations tended to change from trial to trial. The direction of the shifts in expectation made by Os over all trials when (a) P's score is poorer than Os' expectation for that trial, and (b) when Ps' score is better than or equal to Os' expectation for that trial, are revealed in Table 4-5.

Table 4-5

Direction of Shifts in Observing Groups' Expectations

Ps' score on trial k relative to Os' expectation for trial k	N of trials $=480^a$	Os' expectation for trial k+1 is:		
		Raised	Lowered	Kept same
Ps fail to attain Os' expectation	233	33	152	48
Ps equal or exceed Os' expectation	247	194	16	37

$X^2 = 265.3$, $\underline{p} < .0001$

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[a] Forty-eight sets of observers, ten trials each.

It is evident that the "succeed, raise; fail, lower" rule is strongly supported. The rule was reliably supported in the HiDep and LoDep conditions alike, regardless of the knowledge Os had about what scores other groups attain on the test, and regardless of whether Os were reporting or not reporting their expectations to Ps.

The D-score for Os is the discrepancy between the score Ps earn on trial k and Os' expectation for trial k+1. The mean D-score for all Os was 1.01, indicating that Os on the average expected some slight improvement in Ps' next trial. There were no significant variations from this mean D-score in any separate conditions of the experiment. The D-scores obtained by Os were not significantly different from those obtained by Ps.

An examination of O's success in predicting Ps' score for each trial reveals that they were correct in 52 percent of the trials. Stated in terms of probability, this degree of success indicates that they chose expectations which were only slightly different from the 50-50 level of probability, in the direction of more easily achievable levels.

It is noteworthy that Os did not choose expectations which were very easily achievable by Ps nor ones which were too difficult. Their expectations were ones that would give Ps a challenge, but not too great a likelihood of failure. It appears, then, that Os were selecting their expectations not only on the basis of what Ps would probably be able to achieve but also on the basis of what Os desired Ps to achieve. All in all, Os' expectations about Ps' group performance were closely similar to Ps' group aspirations. Varied conditions which might have generated biases or wishful distortions in Os' expectations (dependency, knowledge of scores by groups other than Os, reporting to Ps) had no differential effect upon Os' expectations.

Os' expectations versus Ps' aspirations. Did the separate roles of performing and observing generate differential tendencies to shift aspirations among Ps and expectations among Os? Data comparable to those in Tables 4-1 and 4-5 were prepared for the Ps in the condition in which they received no expectations from Os and for the Os in the condition in which they received no norms from E, i.e., the control conditions for both groups. These results are shown in Table 4-6.

There is no significant difference in the direction of the shifts by Ps and Os when Ps' scores fall short of Ps' aspirations or Os' expectations. But Os are more likely to change their expectations in an upward direction after Ps' score exceeds Os' expectations than Ps are to change their aspirations upward after their score exceeds Ps' aspirations. In general, Os adhere more closely to the "succeed, raise" part of the rule than do performers. Ps, more than Os, stay with the aspiration they had set for the previous trial, regardless of their success or failure in attaining it.

Table 4-6

Direction of Shifts in Performing Groups' Aspirations and Observing Groups' Expectations, Control Condition

Ps' score for trial k relative to Ps' aspiration or to Os' expectation for k	N of trials =320[a]	Ps' Aspiration or Os' expectation for trial k+1 is: Raised	Lowered	Kept same
Ps Score is below:				
Performers' aspiration	85	10	45	30
Observers' expectation	77	8	50	19
		$X^2 = 2.5$, p, n.s.		
Ps Score equals or exceeds:				
Performers' aspiration	75	48	0	27
Observers' expectation	83	65	9	9
		$X^2 = 3.90$, $p < .05$ (collapsing last two columns)		

[a] Thirty-two groups, ten trials each.

Observers' Evaluations of Performers

The expectations stated by Os may be used by them as criteria in evaluating the work of Ps. To test this possibility, Os in the post-questionnaire were asked to rate Ps in response to the query: "All in all, how well do you think the shooters did on the test-board?" The mean ratings on this query for each set of Os were correlated with the mean discrepancies between the Os' expectations and Ps' scores. If the Os are using their expectations as evaluative criteria, we should find a significant negative relationship between their evaluations of Ps and their D-scores.

When Os were given a high norm by E and reported their expectations to Ps, $r = -.68$ ($p < .01$). When Os were given no norms by E and reported their expectations, $r = -.49$ ($p < .05$). When Os had no norm provided by E and did not report their expectations to Ps, $r = -.07$ (p, n.s.). The last correlation is significantly different from each of the other two ($p < .05$).

Thus, in general, Os tended to evaluate the effort of Ps more unfavorably as Ps' performance was below what Os expected, indicating that Os' expectations were used by them as criteria in evaluating the success or failure of Ps' performance. Os used their expectations as evaluative criteria more consistently when reporting expectations to Ps than when not doing so. Os who did not report expectations to Ps, apparently did not take their expectations to be criteria for evaluating the success or failure of Ps' score.

Finally, it is noteworthy that Os used their expectations as evaluative criteria more consistently in LoDep ($r = -.62$, $p < .01$) than in HiDep ($r = -.08$, p, n.s.). In HiDep, presumably, Os used criteria other than their expectations in evaluating Ps' scores, perhaps they referred to their chances of getting the reward they were potentially eligible to receive in HiDep.

Other Reactions of Observers

There were no signs that Os responded with differential affect toward Ps who were inept or capable in any of the separate conditions of the experiment. Thus, Os were on the whole not stimulated to defend or rationalize Ps' behavior when it was inept or to feel more favorably toward Ps' behavior when it was capable. Os, moreover, had no differential attitudes toward the test or other aspects of the experimental situation in different experimental conditions.

Discussion

The level of expectations communicated to Ps from Os had strong effects upon Ps' aspirations. These effects were powerful enough to modify Ps' adherence to the rule, "succeed, raise; fail, lower," which is ordinarily very strong in itself, and to determine the level of Ps' stated aspirations and D-scores whether or not the Os were highly dependent on Ps. Os' degree of dependency on Ps weakly affected the level of Ps' performance but there was no evidence that HiDep generated higher aspirations. The influence of Os upon Ps' aspirations, then, was not modified by variations in feelings of responsibility toward the Os.

The data within the control conditions suggest that Ps were less optimistic than Os in changing expectations following a successful performance (Table 4-6). Why should a performing set of persons be more cautious, if indeed they are? Do groups who obtain a group score feel that a group level of aspiration is a public commitment to obtain that score so that they set lower and more attainable goals? Or, do groups tend to develop less concern about doing well and thus choose a more conservative level because they generate a "don't care" attitude? Or, do groups perceive that a group task is typically difficult to perform well since smooth collaboration is not easy to achieve, and thus they set low goals? These are issues needing further study.

The aspirations set by Ps were used as standards by them in evaluating the goodness of their team's performance, but only when Os expected that Ps would do better than Ps actually did. Because Ps approved more heartily of Os who sent high expectations than of those who sent low expectations (Table 4-4), it is probable, but cannot be established with the present data, that Ps internalized (took as their own) the expectations made by Os of whom they approved, since approved persons have more ability to influence behavior than persons who are not approved (French & Raven, 1959; Zander & Curtis, 1962).

Although there were few significant differences in the results for Ps when comparing HiDep and LoDep, there was an interesting trend within the separate degrees of dependency worth brief mention. Within HiDep, Ps' mean reactions to Os who sent high expectations were significantly more favorable than their reactions to Os who sent low expectations, on every one of the items listed in Table 4-4. Within LeDep only a few of these favorable-unfavorable differences are significant. The trend indicates that Ps were more favorable toward Os in a HiDep relationship than in a LoDep relationship. If we assume that the Ps had a standard of appropriate behavior by Os (e.g., Os should not be discouraging to Ps in HiDep by sending low expectations), the greater approval of Os who sent high expectations in HiDep suggests that Ps most approved of those Os who best fulfilled Ps' standards and disapproved of those who contradicted these standards.

Summary

Forty-eight teams performed ten trials of a task while being observed by forty-eight groups of observers. The observers were asked to decide, before each trial, via a unanimous group decision, what they expected the performing group would be able to do on the task. The observers were either high or low in dependence upon the performers for a potential reward, were either told the alleged scores of other teams for each trial or were not told these scores, and either reported their expectations to performers or did not report them. The performing groups selected, via a unanimous group decision, a group aspiration for each trial. Before doing so they were given what was alleged to be the expectation of the observers, which was either high (too high for performers to attain) or low (easy for performers to exceed); or they were given no expectations from observers (control). In addition, performers were aware that observers were either highly dependent or not dependent upon Ps.

This procedure was used to examine several issues: Does a knowledge of the observers' expectation generate a bias in the performing group's aspiration? Is this bias greater when observers are dependent on performers than when they are not? Are the performers' aspirations and the observers' expectations meaningful criteria of success and failure by the team? Does an expectation by an observing group resemble a group level of aspiration?

The main findings were as follows.

1. The level of the observers' expectations affected the level of the aspirations stated by the performing group.

2. Their group aspirations were used by performers as standards for evaluating whether their team's performance was a success or a failure and this occurred most often where the performers were not meeting the observers' expectations.

3. Members of the performing groups perceived the expectations of observers to be indicators of the competence the observers attributed to performers.

4. The observers' degree of dependence upon performers had no differential consequences for observers' expectations or for performers' aspirations, but weakly determined the score obtained by performers.

5. Observers' expectations were quite similar to performers' aspirations and were relatively little influenced by information about how other teams perform on the task.

6. Observers' expectations were used by them as criteria for evaluating the quality of the performance by the working group, but only when they reported their expectations to the performers.

References

Atkinson, J. Motivational determinants of risk-taking behavior. _Psych_. _Rev_., 1957, _64_, 359-372.

Berkowitz, L., & Daniels, Louise. Liking and response to a dependency relationship. _Hum_. _Relat_., 1963, _16_, 141-148.

Dustin, D. Member coping with group success and failure. Unpublished doctoral dissertation, The Univer. of Mich., 1963.

English, H., & English, Ava. _Dictionary of psychological and psychoanalytical terms_. New York: Longmans, Green & Co., 1958.

French, J. R. P., Jr., & Raven, B. The bases of social power. In D. Cartwright (Ed.) _Studies in social power_. Ann Arbor, Mich.: Institute for Social Research, 1959, pp. 150-167.

Lewin, K., Festinger, L., Dembo, Tamara, & Sears, Pauline. Level of aspiration. In J. McV. Hunt (Ed.) _Personality and behavior disorders_. Vol. 1, New York: Ronald, 1944, pp. 333-378.

Pepitone, Emmy. Responsibility to the group and its effects on the performance of members. Unpublished doctoral dissertation, The Univer. of Mich., 1952.

Thomas, E. J. Effects of facilitative interdependence on group functioning. _Hum_. _Relat_., 1957, _10_, 347-366.

Zander, A., & Curtis, T. Effects of social power on aspiration setting and striving. _J_. _abnorm_. _soc_. _Psychol_., 1962, _64_, 63-74.

Chapter Five

Aspirations for the Group Chosen by Central and Peripheral Members[1]

Herman Medow and Alvin Zander

In many groups some member is responsible for facilitating movement toward completion of the group's task; unless he does his part, the group makes little progress. A person occupying such a central position (C), we assume, is likely to have a stronger desire for achievement of success by his group than one who is in a peripheral position (P) because C perceives that the success or failure of his group is largely due to his own effort. It has been observed, in support of this assumption, that members exert greater effort in behalf of their group the larger their share of the group's take (Shaw, 1960) and the more important their function for the group (Pepitone, 1952).

Desire for group achievement (DGach) is a motive to strive for the success of a group in which one is a member. It is aroused by membership in a working group and is stronger the greater one's responsibility for the performance of the group or the greater one's strength of membership in the group. Even though it is a socially oriented motive and not an enduring disposition of the personality, DGach is conceived to be an analogue of the individual motive for personal achievement (Nach). Atkinson (1957) has described how Nach affects an individual's level of aspiration. We anticipate by analogy that DGach will determine a member's level of aspiration for his group.

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Assume that a group is constrained to attempt any one of a set of tasks, each of which has a given degree of objective difficulty, as in a typical level of aspiration situation. In the approach suggested by Atkinson, a person with a stronger personal motive to achieve prefers a personal task of intermediate difficulty rather than a very easy or very difficult one. C, more than P, it follows, will prefer his group to attempt a task with an intermediate level of difficulty rather than a very easy or very difficult one. This is the primary hypothesis in the present study.

Because C has stronger DGach than does P, we expect that he is more likely to view the group's level of aspiration (the level of task agreed upon by the members) as a standard of performance the group ought to achieve. Thus, the standard will be used more by C than by P as a criterion for evaluating the quality of the group's performance: a successful group will be rated more favorably by C than by P and an unsuccessful group more unfavorably. The performance of the group is more likely to determine C's evaluation of his personal performance than P's self-evaluation.

The central and peripheral positions are parts of the group's task structure. One may also conceive of degrees of centrality in a group's decision structure. In a centralized decision a particular member makes the decision for the group and in a decentralized decision each member has an equal share in determining the choice of the group. We anticipate that the differential effects of positions C and P, already noted, will be stronger in a group where C makes a centralized decision on the group's level of aspiration than in a group where C and P participate in a decentralized group decision.

Method

Subjects were 180 11th and 12th grade boys in a middle class suburban community. A classroom in the school was used for the laboratory.

Experimental Task

Three subjects, assigned by a school official, appeared at each experimental session. The experimenter (E) introduced himself as a representative of the University Testing Service (a fictitious organization) and explained that he was testing all junior and senior boys for Organized Work Aptitude, ability to work in a team relationship. The subjects were seated at a single table but concealed from one another by wooden partitions.

They were told that each was to construct on the table before him, within a limited time, an exact duplicate of a design made of dominoes, that they would each work on the same design, that they must work in accord with particular rules for the test, and that they would have four trials on the test.

On one wall, placed so that all Ss could see them, were fourteen large poster cards, each displaying a geometric design made of dominoes. The designs regularly increased in complexity. The dominoes in the designs were placed end to end, or end to side, each domino being numbered from one through the number of pieces in the design, the simplest design contained five dominoes and the most complex eighteen. On each card there was also a large number in red with a percentage sign. The Ss were told that these numbers referred to the proportion of teams like their own who have been able to complete that design within the allotted time. These percentages, intended to give the subjects an indication of the probability of being able to attain each level of difficulty, were high for the simplest design (98 percent) and low for the most difficult design (8 percent), with fairly equal gradations for each design between these two extremes. The series of designs, therefore, constituted a fourteen point scale of difficulty from very easy to very difficult.

Each subject was furnished a bucket with a supply of dominoes sufficient to complete the design on which he was working, plus an equal number of blank pieces intended to increase the difficulty of the task. He was instructed to withdraw dominoes from his bucket five at a time, as rapidly as he could. But, before any domino could be placed in his design, he was told, it was necessary for him to have the preceding one in place. Thus, he could not begin his design until a domino with one dot was found (Number 1) and put in place, after which he sought a domino with two dots (Number 2) and put it in its place, and so on.

Task Centrality

Within each group one member was to be a central person (C) and the other two peripheral persons (P1 and P2). The assignments to positions were determined by having the Ss draw lots before they were seated at the table. Degree of centrality was created by a restriction on the way the work was to be done. They were informed that the persons whose lots had been P1 and P2 could not place a domino in their design until C had done so. While working on the task, person C was free to move as rapidly as he could in completing his design (each piece in its proper order) with the requirement that he call aloud his progress through the various steps in his design. Persons P1 and P2 were also free to draw dominoes from their buckets as fast as they could, but they could not place them in their design (each piece in its proper order) until C had provided his enabling act. The actions of C, then, were more central in the task structure than those of P1 and P2 even though all three members performed exactly the same physical movements.

Decision Centrality

Members were informed that the design on which the goup would work (the group's level of aspiration) was to be determined within the team. In order to invoke a centralized decision, half of the groups were told that the decision was to be made by C. He was to make this decision alone without any advice from his teammates. All Ss first completed private ballots in which they stated the design they preferred for the group (member's aspiration for group), these were given to E and were not exchanged among Ss. C's suggestion was announced as the group's aspiration. In order to create a decentralized decision, Ss were told that each would privately vote on the design they wished the group to select and that majority rule would decide. Members' votes were tabulated by E and the results were announced, anonymously. The announced decision was a fabricated one to match a design level chosen in one of the centralized decision groups. This fabrication was necessary in order that teams in the centralized and decentralized decision conditions have comparable group aspirations, i.e., that they work on designs with comparable levels of difficulty.

Success and Failure

Subjects were informed that their effort on a given design would be rated either a success or a failure; a success if they finished within the time limit, otherwise a failure. E carried a stop watch and clicked it shortly *before* C had finished his design (thus P1 and P2 had of course not finished their designs) in order to create a perception of failure, and clicked it shortly *after* all three members had completed their designs in order to create a perception of success. After appropriate inspection of his watch, he announced to the group whether it had succeeded or failed on the task. Half of the groups were given a success and half were given a failure on all trials within each of the treatments already described.

Testing Procedure

In order to ensure that they understood the instructions, the groups were first given a practice trial on a design smaller than any in the test series. All teams were told that they had been successful in their practice trial. They were then informed that the rules required that they begin work on design Number 7 (the mid-point in the scale of difficulty). Half of the teams succeeded and half failed on this design. Thereupon, they chose (either by a centralized or a decentralized decision) the design for the next trial and were tested on that design; this procedure was repeated twice more, except that they were not actually tested on the fourth trial.

After selection of the design for a fourth trial, Ss were given a questionnaire. It was presented to them as an interruption in the test and as a means whereby the University Testing Service might learn to do a better job when testing high school students. Queries on this instrument were in fact to help us validate the experimental conditions and to assess the effects of these conditions on motivation and self-evaluation. The queries are shown in Table 1. All were Likert-type, seven-point, rating scales.

Following the questionnaire the test was described as completed and Ss were told about the purpose of the study, any deceptions, and the reasons for these. Their questions were answered and appropriate assurances were given them about the nature and meaning of their behavior on the test. They were asked to maintain secrecy about the experiment until a stated deadline had passed.

Results

Stated Motivation

One team member (C) was placed in a position with greater influence upon the output of the group than the other members (Ps). Were the participants aware of their relative effect? Queries on this issue were contained in the post-experimental questionnaire. The responses shown in the first three rows of Table 5-1 reveal that Cs compared to Ps perceived

they had the larger part in the group's task, that other members were more dependent on Cs, and that Cs were more responsible for the quality of the group's product. It is noteworthy, moreover, that there was a significant interaction for the last one of these three queries such that Cs perceived they were more responsible for the performance of the group than did Ps when the group had failed but not when it had succeeded ($F=14.72$, $p < .001$).[2]

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[2] All values of F in this report have 1/172 degrees of freedom. The relevant means for this interaction are: C-success, 4.93; P-success, 4.39; C-fail, 5.70; P-fail, 3.45.

Table 5-1

Felt Motivation and Evaluation of Effort by Participants

	Central $\bar{X}$	Peripheral $\bar{X}$	Value of t	Group Succeeds $\bar{X}$	Group Fails $\bar{X}$	Value of t
How large a part you had[a]	5.42	4.38	6.50***	5.23	4.21	6.37***
How much mates dep. on you[b]	6.30	4.90	8.75***	5.49	5.24	n.s.
Personal resp. for group[c]	5.32	3.93	9.26***	4.58	4.21	2.45**
How hard people try[d]	6.73	5.08	2.24**	5.37	5.30	n.s.
How hard mates tried[e]	6.43	5.82	6.77***	6.29	5.76	5.88***
How let down if grp. fails[f]	5.10	4.54	2.43**	5.06	4.40	2.86***
How well team performed[g]	4.27	3.92	3.88***	5.96	2.11	42.66****
How well you performed[h]	4.32	4.98	4.83***	5.63	3.78	15.41****

*$p < .05$
**$p < .025$
***$p < .001$
****$p < .0001$

a. How large a part do you feel you played in your team's performance? (None at all - Very large).

b. How much did you feel that others depended on you to help your team succeed? (Not at all - ery much).

c. How responsible do you think you personally were for your team's success or failure? (Not at all responsible - All my responsiblity).

d. How ha: do you think people would usually try on a test like this? (Not at all - Would try very hard).

e. How hard do you think the other members of your team tried? (Not at all - Tried very hard).

f. How let down fo you think people usually are when their team fails on this test? (Not at all - Very much).

g. How well do you think your team performed on this test? (Very poor - Excellent).

h. All in all, hov well do you think you performed your part on this test? (Very poor - Excellent).

Not only did the Cs view themselves as more responsible for the performance of their group, they also perceived other members as more ready to exert effort in behalf of the group, as can be seen in the middle three rows of Table 5-1.

The type of decision method, centralized versus decentralized, had no differential effect upon these results.

Intermediacy of Aspiration Choice

It was predicted that C more than P will prefer his group to attempt tasks with intermediate levels of difficulty. This prediction does not unequivocably suggest that the mean aspiration proposed by Cs will differ from the mean aspiration proposed by Ps, and there was no difference in those means.

The hypothesis does suggest that Cs and Ps will differ in the extent to which their aspirations for the group differ, one aspiration from another, during a series of trials. We recall that the members of each team, Cs and Ps alike, received identical information about their team's performance (success or failure) on the group's task. Presumably this task had the same degree of objective difficulty for both Cs and Ps. Following a success or a failure by the group, the level of difficulty perceived to have a .5 probability of successful attainment is usually shifted to some degree, upward following a success and downward following a failure (See Chapter Two).[3] The direction of this shift in perceived probability is presumed to be the same for both the Cs and the Ps. When selecting a new task for the group, then, the hypothesis asserts that Cs will propose one that is close to the level currently perceived as having a .5 probability of success, and hence Cs' choices will be closer together than will Ps's. In sum, Cs will choose more similar aspirations for the group than will Ps.

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[3] In the present study the direction of shifts in members' aspirations for the group adhered strongly to the rule, "succeed, raise; fail, lower," X^2=176.09, $p < .0001$. Cs and Ps were not significantly different in the direction of these shifts.

One way to test this prediction is to compare the variances of the aspirations for the group privately proposed by Cs and Ps after all groups had worked on exactly the same task, for example the design for level Number 7, the beginning task for every group. Here the variance should be smaller among the group aspiration levels chosen by Cs than among the group aspiration levels chosen by Ps. Another way of testing the prediction is to compare the variances in the average amount that members shifted their aspirations for the group from trial to trial regardless of the tasks the group attempted. Here the amount of shift in aspirations for the group should be more similar among the Cs than among the Ps.

The results reveal that the variance of the aspiration levels chosen by Cs was smaller than the variance of the levels chosen by Ps following the first trial ($p < .025$), within the centralized decision groups but not within the decentralized decision groups. The variance in the amount that members shifted their aspirations for the group across all trials was smaller among Cs than among Ps, regardless of whether the group had succeeded or failed, again within centralized decision groups, but not within decentralized ones ($p < .01$). These results support the hypothesis that Cs more than Ps prefer aspirations for their group in the intermediate range of difficulty, closer to the .5 level of perceived probability. But the hypothesis is supported only when Cs' effect upon the group's outcome is greater, that is, in the centralized decision method.

Evaluation of Performance

It was predicted that, because of his greater involvement in the achievement of the group's goal, C would rate the team's performance more favorably when it had succeeded and unfavorably when it had failed, than would P. This prediction was not supported. Instead, C rated the performance of the team more favorably (than did P) regardless of whether the team had succeeded or failed (see second to last row in Table 5-1).

Cs were significantly less favorable about their personal performance than were Ps, as can be seen in the last row of Table 1. There was, moreover, a noteworthy interaction between C-P and success-failure, such that Cs devalued their personal performance more than did Ps after a group failure, but Cs and Ps did not differ after a group success ($F=19.50$, $p < .01$). Examination of the means in each treatment of the experimental design (because of a significant second-order interaction among centrality, group success-failure and decision type, ($F=6.29$, $p < .025$)[4] reveals that Ps rated their personal performance just as high when the group had failed as they did when the group had succeeded, in the decentralized condition; but rated themselves low after a group failure and high after a group success in the centralized condition. Cs, in contrast, judged their own performance unfavorably if the group had failed and judged it favorably if the group had succeeded regardless of the method for deciding the group's level of aspiration.

Failure by the group, in sum, had a stronger impact upon C's evaluation of his own performance than upon P's evaluation of own performance and Ps more often avoided this impact when they had a part in choosing the group's aspiration.

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[4] The means relevant to the last two interactions fillow. For Cs: central-success, 5.60; decentralized-success, 5.80; decentralized-success, 5.60; centralized-fail, 3.83; decentralized-fail, 4.70.

Discussion

In setting an aspiration for his group, a member is anticipating the future behavior of others (plus himself). The determinants of the member's aspiration for his group appear to be very similar to the determinants of an individual's aspiration for himself, as noted in earlier investigations (Chapters Two and Three). The aspect of the present study worthy of further scrutiny is that the member's motive to have his group do well (DGach) appeared to operate, under the conditions provided, as an analogue of a personal need for achievement. A socially generated and socially concerned desire functioned in a fashion similar to a so-called personality characteristic.

The relatively weaker involvement of Ps in the success of the group apparently made it possible for them to perceive the group's performance, particularly when that performance was poor, as an unreliable indicator of their personal ability. Cs, in contrast, evaluated their own personal performance poorly when the group had failed and perceived themselves as more responsible for the performance of the group when it had failed. Cs, moreover, rated the group's performance better than did Ps.

The separate decision types, centralized and decentralized, had few differential effects. Results reported, and other findings too tangential to be included here, suggest that greater involvement was generated for both Cs and Ps in the centralized decision situation than in the decentralized one. Loyalty to C's decision appeared to be more involving for Ps than having a say oneself in selecting the task of the group.

Summary

Three-person groups engaged in a series of trials in a level of aspiration situation. One member of each triad was more central than the others in that the success or failure of the group was more dependent upon his effort than upon the effort of the other two. The task, described to participants as a test of Organized Work Aptitude, could be performed at any of the thirteen different levels of difficulty. In one condition the central person chose the task for the group and in the other condition all members voted on the group's task. Half of the groups succeeded and half failed on all trials. The major findings follow.

1. Central group members, compared to peripheral members, more often proposed that the group attempt tasks with intermediate levels of difficulty, particularly when the central persons were primarily responsible for selecting the group's task.

2. Central persons rated the performance of the group better than peripheral persons did.

3. Central persons perceived their own personal performance favorably when the group succeeded and unfavorably when it failed. Peripheral persons, however, did not perceive the group's failure as a reliable indicator of personal ineptness especially when they had a say in determining the difficulty of the group's task.

References

Atkinson, J. W. Motivational determinants of risk-taking behavior. *Psychol. Rev.*, 1957, *64*, 359-372.

Pepitone, Emmy A. Responsibility to the group and its effects on the performance of members. Unpublished doctoral dissertation, Univer. of Mich., 1952.

Shaw, D. Size of share in task and motivation in work groups. *Sociometry*, 1960, *23*, 203-208.

Chapter Six

Strength of Group and Desire for Attainable Group Aspirations[1]

Alvin Zander and Herman Medow

This study is concerned with a member's desire for group achievement (DGach), defined as a motive to strive for the success of one's group. The desire is conceived as an analogue of the personal need for achievement (Nach). That is, the properties of Nach and its effects on personal aspirations, described by Atkinson (1957), are used as a "program" to suggest what to anticipate when examining the origins of DGach and its effects on group aspirations.

Desire for Group Achievement

Just as an individual's Nach is aroused when situational cues indicate that some performance by him will be instrumental to his attainment, a member's DGach is aroused, we assume, when his group competes against a standard of excellence. The more responsible a member's role in the group, moreover, the greater is his DGach. Pepitone (1952) and Medow and Zander (Chapter Five), as examples, have observed that a member with a more central role in the group's task displays behavior which suggests he has greater DGach than a member with a more peripheral role. Also, Shaw (1960) has noted that a member with a larger share in the group's task is more concerned about the group's output than one with a smaller share.

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We are grateful for the assistance of Roger Christenfeld in the administration of this experiment and of David Wulff and James Ledvinka in the analysis of the results.

In the present investigation we consider the consequences of conditions which presumably determine the importance of his group for a member. We assume that when a person perceives he is an element in a clearly defined set of persons, the more this unit is attractive to him the greater will be his DGach. A clearly defined and attractive group is called a *strong* group and a less well defined and unattractive group is called a *weak* one. The operations employed to create the contrasting conditions strong and weak, described in the discussion of the method, are typical of those used in generating group unity (Zander, Stotland & Wolfe, 1960) and group cohesiveness (Schachter, 1951).

Member's Level of Aspiration for Group

An individual's need for personal achievement determines the level he selects when he is constrained to choose a solo task from among a set of tasks which differ in difficulty. Persons with high Nach, it has been shown, more often choose tasks with an intermediate degree of difficulty than do persons with low Nach. The latter more often select tasks which are either very easy or very difficult (Atkinson, 1957).

A group, not unlike an individual, may be placed in a level of aspiration situation in which the members are required to select the task they wish their group to attempt. In such a case, our analogy suggests, members with HiDGach, more than those with LoDGach, will choose aspirations for their group which are in the intermediate range of difficulty for the group. Thus, it follows that members of strong groups, more than members of weak groups, will choose group tasks with intermediate levels of difficulty.

Motivation toward Group Success and Away from Group Failure

Studies of Nach have found it useful to distinguish between the motivation to approach success and the motivation to avoid failure because, for one thing, higher Nach ordinarily ensures that concern with success will be the more dominant motive, whereas lower Nach ensures that avoidance of failure will be the dominant motive, especially if failure is feared. More importantly, the above distinction has been made because an individual who is disposed to approach success acts quite differently when reacting to past performance and setting future aspirations than one who is disposed to avoid failure. The former sets his level of aspiration in the intermediate zone where there is a moderate risk of failure while the latter selects either the easiest of the alternative tasks or the most difficult ones. Atkinson (1957) reports empirical results to support these last assertions.

To continue our analogy then, we expect that members who are disposed to attain success for their group will choose group aspirations of intermediate difficulty more than members who are concerned to avoid group failure. For the testing of this hypothesis we create a situation in which members are motivated to approach group success on the one hand or to avoid group failure on the other. To create a concern with approaching success, members are rewarded if the group is successful in the performance of its task; the more difficult the task the more the reward. To create a concern with avoiding failure, members incur a cost if the group fails; the easier the level of difficulty attempted and failed the greater the cost. These are called hereafter the *reward* and *cost* conditions. Although these conditions often occur simultaneously for group members, it is instructive to consider them as separate and pure cases as follows.

The reward and cost conditions (all else held equal) each generate forces toward choosing more difficult group tasks. The reward does so by stimulating a desire to maximize consequences of group success and the cost by stimulating a desire to minimize consequences of group failure. Since we cannot know beforehand if it is more essential for members to increase their group's rewards or to reduce their group's costs, we cannot predict with confidence that one condition will stimulate members to select more difficult tasks than the other. We can predict, however, as in the behavior of individuals, that members' choices of aspirations for the group should more often be at the intermediate levels of difficulty where the motivation to approach success is stronger than where the motivation to avoid failure is stronger; thus, there should be less variance in the choices of members in the reward groups than in the choices of those in the cost groups.

Group Performance.

Individuals with HiNach are expected to perform a given task better than those with LoNach and they usually do so (Atkinson, 1957; McClelland, 1961). Those who are motivated to approach success, however, are as concerned to succeed as those who are motivated to avoid failure and thus there are ordinarily no differences in performance by persons with these different motivations. Regardless of their motives, individuals working on solo tasks tend to perform best when the chances of obtaining success or failure are fairly equal, that is, when working on tasks with intermediate degrees of difficulty.

We anticipate, then, that strong groups will perform better than weak ones. Group performance, furthermore, should be better on the tasks perceived by members to have a .5 probability of successful accomplishment by the group, than on tasks perceived to be considerably easier or more difficult for the group.

Effects of Group Performance

Individuals who successfully attain their level of aspiration tend to select a more difficult task for a subsequent trial, whereas those who fail to attain their aspiration tend to select a less difficult future task. This is in accord with the rule "succeed, raise; fail, lower" described in Chapter Two.

There is no reason to expect that persons with HiMach will adhere more closely to the rule than persons with LoMach. But, since persons with HiMach are more likely to choose tasks close to a perceived .5 level of subjective probability than are persons with LoMach, the mean amount of shift in aspiration from trial to trial should be less in persons with HiMach than in those with LoMach. By analogy, we expect that the mean amount of shift in aspiration for group should be smaller in members with HiDGach than in those with LoDGach, that is, smaller shifts will occur in strong groups than in weak groups.

The effects of success and failure by the group, as members adhere to the rule "succeed, raise; fail, lower," has been so strong in past work on group aspirations that it overwhelms the effects of other variables. Accordingly, we shall observe the consequences of strength of group and of the reward and cost conditions when perceptions of success and of failure are eliminated for the participants by giving them no immediate evidence about the performance of their group, this is called the NEF condition. The design of the experiment can be seen in Table 1.

Other Motivational Indicators

The conditions discussed thus far will be examined for their effects upon other measures of members' motivation: evaluation of the team's performance, evaluation of individual performance, motivation to succeed on the task, and felt responsibility for the group effort. Space is not available for specifying predictions and reasons for them here. These will be noted in the results.

Method

Subjects

Participants in this experiment were 216 boys from three suburban high schools. They were assigned to participate in a "test" by a school official, a common occurrence in each of these schools. A vacant room in the school was used for the laboratory.

Strong and Weak Group

Subjects arrived in groups of three, one person from each of the 10th, 11th, and 12th grades. Boys from three grade levels were used so that previous acquaintance among them might be minimized and so that the experimental instructions intended to generate attraction to group might be credible to them. Upon their arrival, the subjects were told by the experimenter that he was from the University and that he was making a survey of students' Communication Coding Capacity. This was described as a test in which individuals work together for a team score. No stress was laid on the importance of this ability or the importance of doing well on the test since participants readily become involved in the task and work hard on it.

The experimenter continued, "In setting up groups we put together people who are well matched and who will get along well while they are working together. To do this we use certain school records and personality ratings of the students."

To generate *weak* groups, members heard the above statements while seated at a table behind wooden screens. They could not see one another and at no time during the experimental session did they orally interact with one another. The experimenter asked the laboratory assistant to look up the records on this set of persons; which was done by much flipping of pages in a thick notebook and examining of data. After private conversation between the experimenter and the assistant , the experimenter then said, "Unfortunately, we have had some scheduling problems and didn't do too well in creating a good fit among you. We couldn't manage to schedule for this hour three people whose personalities would fit together well. The three of you may find that you don't get along as well with each other as you might if you were with some other people."

To create *strong* groups, the experimenter gave the opening speech to the subjects while they were seated at a table without screens, facing one another, and with complete freedom to talk. After consultation of the record book, as described above, he said, "We've been particularly lucky with this group because we've put together three of you who will probably fit together very well and will get along well together." Following this statement, and the pleasant grins it caused among participants, the subjects were asked to pick a name for their team. This was done in order to give them an opportunity to talk on a matter of mutual interest. When their choice had been made, it was carefully lettered on a large poster and hung on the wall. Following this, they were asked to move to the table where the wooden screens would separate them; thereafter, they had no opportunity for oral interaction, just as in the weak condition.

Task and Aspirations

The so-called Coding Communication Capacity Test required that each subject circle, in a particular sequence, sets of numerals printed on specially prepared IBM cards. The cards contained twenty fields (sets of four columns). Within each field there were twelve sets of numerals, one set below the other; a set of four Number Ones, followed by four Number Twos, followed by four Number Threes. During the test, subject A was to circle the Ones, B the Twos, and C the Threes. After each subject circled the numerals for which he was responsible in a given field, he passed the card under the screen to his right. When two sets of numerals in a field had been marked, the work for that field was finished. Finally, when the appropriate set of fields had been marked, the card was completed and was tossed in a box. Each subject began each trial with six cards. The instructions indicated that there was a fixed time limit for each trial--"just under three minutes."

After the subjects had a practice trial on two fields, they were asked to choose for the first trial a task they wished their group to attempt. The easiest would be one field and the most difficult, 13 fields. Whatever level they chose, however, the number of the cards and the time limit would remain the same as would the requirement that only two sets of numerals in each field had to be marked. There would be five trials in the total test, and they would choose their task level for each trial.

In choosing the group task, prior to each trial, each participant was to mark a private ballot indicating how many fields he wished his team to attempt on the next trial. This private rating is called the *member's aspiration for his group*. If all members marked their private ballots the same, this level of difficulty was taken as the aspiration of the group for the group, or more briefly, the *group aspiration*. When differences existed among the members' private ballots, the experimenter read aloud the separate choices and then asked for a hand-raising vote for each of the levels. These hand votes were then announced and if necessary a new balloting occurred until unanimity was reached on the group level of aspiration.

Reward-Cost Conditions

To create the *reward* condition, the experimenter then said, "One more point before you vote on your first ballot. To let you know how you are doing we will reward your team each time you succeed in completing the 18 cards within the time limit. We will deposit chips at each position each time your team has a success. The chips will be paid out as shown on the chart in front of you (refers to chart posted on wooden screen in each participant's booth). Note that if your team votes to work on one field and succeeds we will give each of you one chip for that trial. If you succeed for two fields we will give each of you two chips, three fields three chips, four fields four chips, and so on up to 13 fields for which you would each receive 13 chips if your team succeeds. If you select a level that is too hard for your group and you do not succeed in the time limit of course you would be paid no chips. The better your team performs the more it earns. At the end of each trial we will tell you whether or not your team succeeded.

To create the cost condition, the experimenter gave each member 33 chips at the outset and stated that he would penalize the team for each trial in which it failed to complete the 18 cards in time. The penalties were to be carried out as shown in a chart in each booth. If the team would choose one field and fail, 13 chips would be deducted from each member for that trial, if the team would fail at two fields, 12 chips would be deducted, three fields 11 chips, four fields 10 chips, and so on. The experimenter would deduct no chips for a team success at any level. The worse the team performs, so the participants were told, the more chips it would lose. The chips in the above paragraphs were ordinary poker chips.

No Evidence of Performance (NEP)

In order to create the NEP condition , the experimenter modified the reward-cost inductions in one way. Instead of stating that chips would be paid or deducted after each trial, he said, "We will tell you your score on the test, how many chips your team won (or lost), at the end of the entire session, after you have completed all of your trials on the test."

Success-Failure

It was necessary to control on the amount of success and failure in each group, thus these did not depend upon the actual performance of the teams but were preplanned and announced by the experimenter. He gave the group a signal to start and at the same time visibly clicked a stop watch; when the last card had been placed in the finished work box he again clicked his watch. To create a success, he announced, after inspection of the watch, that the group had been successful and to create a failure he announced that they had not finished the task in time.

On the first trial every team was given a success regardless of what task level it had chosen. On the second trial, every team was given a failure. Thereafter, those groups in the success condition were given two consecutive successes and those in the failure condition two consecutive failures. Thus, there were four performance trials.

Post-Experimental Questionnaire

After the balloting had been completed for a fifth trial, the participants were interrupted and asked to complete an Appraisal Questionnaire. It was introduced as an effort to determine their reactions to the test "thus far" so that procedures could be improved for future testees. The queries, seven-point, Likert-type rating scales, are described at appropriate places in the description of the results. Following this, the experimenter announced that the test was completed. He carefully described all deceptions and explained the reasons for them. In addition, subjects were asked not to reveal the nature of the experiment to classmates until several weeks had passed.

Results

Member's Aspiration for Group

The mean of the members' aspirations for the group in Trials Four and Five for each experimental treatment is shown in Table 6-1.[2] (To illustrate the hypothetical incentive values for each of these aspiration levels, the mean number of chips to be gained or lost are also shown in Table 6-1). The summary of the analysis of variance for the mean aspirations is provided in Table 6-2. An examination of the main effects of the independent variables shows that members of weak groups chose slightly more difficult tasks than members of strong groups, though this difference is not statistically significant. Those in the cost condition chose significantly more difficult tasks (i.e., more risky ones) than those in the reward condition. Members whose groups succeeded chose more difficult tasks than members whose groups failed, and those in the NEP groups chose the most difficult goals of all.[3]

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[2] These results are for five trios in each treatment instead of the six from whom data were originally obtained since two groups who were to have succeeded on the task took so long that it would have been incredible to tell them they had been successful, thus, they were told they had failed. These two groups and one randomly selected from each of the other treatments, to equalize the N in each treatment, were omitted from this analysis and from others concerning aspirations for the group.

The only noteworthy interaction in Table 6-2 is B x C such that the mean aspiration for the group is approximately the same in successful and unsuccessful groups (6.15) within the reward condition, but within the cost condition the mean is much higher for successful groups (7.91) than for unsuccessful ones (5.48). The tendency to avoid failure, presumably created in the cost condition, appears to generate more sensitive reactions to success and failure.

The mean group aspiration unanimously chosen by group members was not significantly different from the mean of the member's privately chosen aspirations for the group in any treatment or condition of the experiment.

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3. Comparable data for Trials 1, 2, and 3 are similar to those shown in Tables 6-1 and 6-2 for Trials 4 and 5 except that, as would be expected, the earlier trials had no significant differences associated with the success and failure conditions since all groups had the same experience in those respects.

Table 6-1

Mean Members' Aspiration for Group, Trials Four and Five

Group Strength	Group Performance	Reward		Cost	
		Mn. Asps.	Mn. chips to win	Mn. Asps.	Mn. chips to lose
Strong	Success	6.70	+6.70	6.10	-7.90
	Fail	5.63	+5.63	5.33	-8.66
	NEP[a]	7.13	+7.13	9.80	-4.20
Weak	Success	5.80	+5.80	9.73	-4.27
	Fail	6.47	+6.47	5.63	-8.37
	NEP	7.30	+7.30	8.53	-5.47

[a] No evidence on performance reported to Ss.

Marginal means

- Strong, 6.78; Weak, 7.24
- Reward, 6.51; Cost, 7.52
- Success, 7.08; Fail, 5.77; NEP, 8.19

Table 6-2

Summary of Analysis of Variance, Mean Member's Aspiration

for Group, Trials Four and Five

Source of Variation	df	Sum of Squares	Mn. Square	F
Strong v. weak (A)	1	9.57	9.57	1.76
Reward v. cost (B)	1	46.51	46.51	8.56***
Succ., Fail, NEP (C)	2	176.86	88.43	16.28***
AB	1	8.24	8.24	1.52
AC	2	27.80	13.90	2.56
BC	2	57.02	28.51	5.25**
ABC	2	77.61	38.80	7.14***
Error	168	911.61	5.43	--
Total	179	135.22	--	--

**p <.01
***p <.005

Intermediacy of Aspirations for Group

We have predicted that members in the strong (and reward) conditions will have a greater preference for group aspirations with an intermediate degree of difficulty than will members in the weak (and cost) conditions. These predictions were tested in several ways.

In one way the variance among each member's aspirations for his group over all trials was computed, the mean of these variances for all members in a given experimental treatment was determined, and these means were compared by t tests. We expected a smaller mean variance in the strong and reward conditions than in the others. The strong condition had a mean variance of 1.92 and the weak condition a mean of 2.75 (t of diff. = 2.03, $p < .05$). The reward condition had a mean variance of 1.79 and the cost condition of 2.88 (t of diff. = 2.69, $p < .01$). These results support the predictions. It follows that variance is less in the strong-reward treatment than in the weak-cost one. The mean variances for each treatment are: strong-reward, 1.69; weak-reward, 1.90; strong-cost, 2.16; weak-cost, 3.60. The last value is different from each of the others by at least $p < .05$.

The above mentioned predictions were tested in another way. Assume that the task level a member states as his aspiration for his group represents approximately the .5 level of subjective probability for him on that trial. Disregard whether the group succeeds or fails on previous or subsequent trials since the frequency of successes are evenly balanced in the treatments we examine. Determine the mean amount each member shifts his aspiration for the group from one trial to the next across all trials. The specific prediction is that the variance between subjects in the amount shifted will be smaller in the strong and reward conditions than in the weak and cost. For all trials this variance in the strong condition is .34 and in the weak .68 (F=1.97, p <.001). The variance in the reward condition is .57 and in the cost condition is .46 (F=1.19, n.s.) For Trials Four and Five alone, the strong versus weak difference is again significant (p <.005) while the reward versus cost difference is not. The variance for all trials in the four treatments of greatest interest are: strong-reward, .39; weak-reward, .73; strong-cost, .29; weak-cost, .64.

Atkinson (1957) has proposed that individuals make more "wild jumps" in changing their personal aspirations when motivated to avoid failure than when motivated to approach success. We would expect to find, therefore, more wild jumps in members' changes of aspirations for the group in the cost condition than in the reward condition. The number of instances in which subjects moved their aspirations for their group three or more levels in either direction from the level they proposed on the previous trial was the measure of this tendency. In the reward condition there were 38 such cases and in the cost condition 60 (see Table 6-3). These results are in the predicted direction and are significantly different (X^2=5.56, p <.02).

In Table 6-3 the interaction between the variables strong-weak and reward-cost is not statistically significant when pooling the data from the success and failure conditions. Examining the interaction among the same variables in the NEP condition alone, thereby ruling out the differential effects of success and failure, we obtain a significant interaction as shown in Table 6-3. It is evident that

Table 6-3

Frequency of "Wild Jumps" in Changing Aspirations for Group, All Trials

Group Strength	Perf. of Group	Reward	Cost
Strong	Success	4	6
	Fail	6	8
	NEP	4	14
Weak	Success	4	16
	Fail	7	10
	NEP	13	6
		38	60

Total $X^2=13.99$, $p \leq .10$.
Reward vs. cost, $X^2=5.56$, $p < .02$.
Strong, weak and reward-cost, within NEP, $X^2=8.60$, $p < .025$.

wild jumps in the cost condition are more likely to be made by strong groups, whereas wild jumps in the reward condition are more likely to be made by weak groups. But, most of the jumps within NEP are in an upward direction (see below). Thus, apparently strong groups more often make extreme shifts in aspirations in order to hold down future costs than to make future gains, whereas weak groups make extreme shifts in aspirations to make future gains more than to hold down future costs--an interesting but puzzling result.

Shifts in Aspiration for Group

Previous Chapters have reported reliable adherence to the rule "succeed, raise; fail, lower" when changing aspirations. And, as can be seen in Table 6-4, the results of the present study support the rule very well. Contrasts among strong-weak or reward-cost conditions do not significantly alter adherence to the rule, as expected. It is interesting that the cost condition tends to stimulate more upward shifts in aspiration than the reward condition and reward tends to stimulate more downward shifts than cost ($p < .10$). Considering the NEP condition alone, the majority of the shifts were upward as in the success condition; no news about performance apparently is good news.

Table 6-4

Direction of Changes in Member's Aspirations for Group

Trial k to Trial k + 1, All Trials

Group	Group perform	Reward			Cost		
		Aspiration for Group for Trial k + 1 is:					
Strength	on trial k is:	Raised	Stays same	Lowered	Raised	Stays same	Lowered
	Success	31	19	22	37	24	11
Strong	Fail	16	27	29	21	21	30
	NEP	43	24	5	49	14	9
	Success	30	22	20	47	14	11
Weak	Fail	20	22	29	16	28	28
	NEP	37	22	13	49	17	6

Success v. fail., $X^2=167.22$, $p < .0001$.
Reward v. cost, $X^2=5.12$, $p < .10$.
Strong v. weak, $X^2=.48$, n.s.

Performance of Group

The amount of time a team took to complete each trial was recorded. The time per field did not differ among the separate conditions of the experiment nor were there any significant interaction effects.

It was predicted that the best performance would occur on tasks nearest the perceived intermediate range of difficulty since motivation would be greater on such tasks. This prediction was tested by correlating the time per field with the amount that each group-decided level of aspiration deviated from the median aspiration of all groups in that experimental condition. In the success condition this correlation is -.40 ($p < .01$) and in the fail condition it is +.08 (n.s.). Thus, as the difficulty level of the group's task is more similar to the median task of all groups, the amount of time per field is greater (that is, performance of the team is poorer), in successful groups but not in failing ones. The results are contrary to the prediction.

Members' Evaluation of Team

In the post-experimental questionnaire, participants were asked, "All in all, how well do you think your team performed in this test today?" The mean ratings in response to this query were: Success, 5.17; NEP, 4.71; Failure, 3.21. The value of F among these was 45.78 ($p < .001$). Members in the strong condition did not rate their team's performance differently from those in the weak condition and those in the reward condition were not different from ones in the cost. Among groups that failed, it is notable that members in the strong-cost treatment rated their group higher than members in the strong-reward treatment ($t = 2.81$, $p < .005$) and the weak-cost treatment ($t = 2.94$, $p < .005$). No other significant differences were observed among the means for groups who failed: strong-cost, 4.06; weak-reward, 3.33; weak-cost, 2.78; and strong-reward, 2.67. Participants were also asked, "What percent of high school teams do you suppose your team did better than on this test?" The results closely duplicate those just described, including the tendency for participants in the strong-cost treatment to rate their team's performance higher than those in the strong-reward and the weak-cost treatment. It appears that members in the strong-cost treatment are less likely to perceive that their group has performed poorly when it clearly has done so.

Evaluation of Individual Performance

Apparently members did not consider the group's failure or success to be an indicator of personal competence. In the post-experimental questionnaire they were asked, "All in all, how well do you think you performed your part in the test?" The mean self evaluation of individual performance on the group's task was almost exactly the same in the strong and weak conditions. What is more, these evaluations of performance did not differ significantly in the success and fail conditions.

It is remarkable, however, that members rated their group's performance lower than their individual personal performance when the group failed. Mean ratings of personal and team performance were 4.67 and 3.21 respectively (t of diff. = 4.24, $p <.001$) in the failure condition. But they rated the group's performance about the same as the rating of self when the team succeeded (Mn. = 5.09). These results are similar to ones previously observed in Chapters Two and Five. A poor group score on a task requiring highly interdependent effort among members apparently generates little self blame.

Other Indicators of Motivation

There is supplementary evidence concerning the member's desire to have his group do well on its task. In general the findings indicate that subjects in the cost condition, more than those in reward, felt pressure from various sources. Strong and weak conditions, in contrast, were less likely to differ in creating pressure for members.

After each trial the participants were asked, "How much energy did you exert during the trial just completed?" Those in the cost condition asserted that they used more energy than those in the reward, but only on the last trial was this difference statistically significant ($p < .001$). And in the post-experimental questionnaire subjects were asked, "How hard do you think the other members of your team tried?" Participants in the cost condition, compared to those in the reward condition, perceived their mates as trying harder, but this difference is significant at only the .10 level of confidence. Subjects in the cost condition, moreover, felt more tension than those in the reward ($p < .05$) and more worry during the test ($p < .10$). Those in the cost condition also believed that the test was a more valid indicator of their team's ability in Communication Coding Capacity ($p < .05$).

Regarding energy expenditure, it seems likely that greater perceived effort by a member should generate greater dissatisfaction with his performance if this effort leads to failure than if it leads to success. This hypothesis was tested by correlating each participant's mean (trial-by-trial) self rating of energy expended with his response to the query: "How satisfied or dissatisfied do you feel about your personal performance on this test today?" The resulting rs in separate conditions of group performance were: success, +.07; fail, -.37 ($p < .01$); NEP, +.04. These results support the conjecture and are consistent with an hypothesis proposed by Herbst (1962).

Finally, perceptions of being helpful to one's team on the test, believing that other members saw one as helpful, and being in fact regarded as helpful by other members, were all significantly higher ($p < .001$) in the successful teams than in the unsuccessful ones. None of the treatments was significantly different from others in how well the members liked other persons on the team.

Discussion

There is support for the assumption that participants would have a higher DGach if they were in a strong group than if they were in a weak one. The support consisted in the findings that members of strong groups had less variance in their aspirations for the group and in their shifts in aspirations for the group, and were more willing to deny failure by the team than did members of weak groups; when failure caused negative consequences, as in the cost condition. Members of strong and weak groups did not differ, however, in measures which were to indicate the perceived amount of effort or quality of effort expended on the task.

The use of subjects from different grade levels created differences in age and physical size and thus the credibility of the experimenter's comments about the similarity among members was perhaps weakened when he was attempting to generate attractiveness to the group. The strong groups, as a result, were probably little more attractive than the weak ones. Results on measures of attraction to group in the post session questionnaire support this interpretation.

The reward condition was to generate a tendency to approach group success while the cost condition was to generate a tendency to avoid group failure. There was evidence that this did occur. The reward condition created less variance in member's aspiration for the group than the cost condition and created fewer "wild jumps" in changes of aspirations for their group than did the cost condition. The cost condition also appeared to generate more awareness of pressure and tension, caused members to select significantly more risky tasks for their group, and generated greater differential reactions to group success and failure when selecting group aspirations than did the reward condition.

The direction of changes in member's aspiration for the group from one trial to another supported the rule "succeed, raise; fail, lower." It is striking however that members of a group when they received no evidence about the quality of the group's performance (NEP condition), selected increasingly more difficult group aspirations from trial to trial and evaluated their group's performance favorably as though their group had clearly been successful in its efforts. Will members of groups ordinarily perceive that their group has done well whenever feedback on the quality of the group's performance is missing, or ambiguous?

In this experiment there was no evidence that success or failure of the team was taken to be a reflection of one's own personal competence. Perhaps this was because the high interdependence among members made it evident that the team's score was the product of all members' efforts alike so that no one person's output could be judged by the output of the group. The group's task itself was perhaps perceived as interesting and even exciting (subjects worked very hard) but its simplicity may not have appeared to test personal competence in any meaningful way. When the team failed, moreover, each member tended to believe that he had performed better than the team as a whole.

The interpersonal motive, DGach, seems to operate in a fashion encouragingly similar to the personal motive, Nach. These results suggest that motives for group action are worthy of further study in terms "displaced" from theories about personal motivation and need for achievement. Clearly, it would be of theoretical and practical value if we could firmly establish that individuals have predicatable and effective motives for others and for groups of which they are a part. The findings in this experiment suggest that DGach has more consistent consequences for selection of a group task than for expenditure of effort or evaluation of group and personal performance.

Summary

Teams of boys were brought into the laboratory to participate in an alleged survey of Communication Coding Capacity, a test in which three persons work in an interdependent relationship. Each member was asked to state what level of difficulty he wished his group to attempt for each of five trials, considered to be the member's aspiration for his group.

One half of the teams were to be strong groups, attractive to their members, and the other half weak groups and less attractive, in order to create differential degrees of desire for group achievement. Regardless of its strength, each group was either rewarded for success (the amount of reward being a direct function of task difficulty) or penalized for failure (the amount of penalty being an inverse function of the task difficulty), to generate respectively a motivation to approach success or to avoid failure. One third of the groups in the experiment were given no information about the quality of their performance, one-third failed on most of their trials, and the remaining one-third succeeded on most of their trials.

The major findings are summarized in three generalizations.

1. Members of strong groups, more than those in weak groups, appear to have a stronger desire for achievement of group success (DGach). This desire is most clearly shown in their greater preference for group tasks at intermediate levels of difficulty than for tasks at easy or difficult levels.

2. A condition in which success by a group is rewarded (and the reward is greater the more difficult the task) generates in members a readiness to approach success. A condition in which failure by a group is penalized (and the penalty is greater the easier the task) generates in members a readiness to avoid failure. Aspirations selected for the group by members are in accord with these motives.

3. **Members of a group who receive no evidence about the quality of their group's output select increasingly more difficult group aspirations and evaluate their group's performance favorably as though their group had been successful in its efforts.**

References

Atkinson, John W. Motivational determinants of risk-taking behavior. Psychol. Rev., 1957, 64, 359-372.

Dustin, D. Member coping with group success and failure. Unpublished doctoral dissertation, The Univer. of Mich., 1963.

Herbst, P. G. Autonomous group functioning. London: Tavistock Publications, 1962.

McClelland, D. The achieving society. Princeton, N. J.: Van Nostrand, 1961, pp. 216-220.

Pepitone, Emmy. Responsibility to the group and its effects on the performance of members. Unpublished doctoral dissertation, The Univer. of Mich., 1952.

Schachter, S. Deviation, rejection and communication. J. abnorm. soc. Psychol., 1951, 46, 190-207.

Shaw, D. Size of share in task and motivation in work groups. Sociometry, 1960, 23, 203-208.

Zander, A., Stotland, E. & Wolfe, D. Unity of group, identification with group, and self-esteem of members. J. Pers., 1960, 28, 463-478.

Chapter Seven

Members' Test Anxiety and Competence, Determinants of a Group's Aspirations

Alvin Zander and David Wulff

This experiment is concerned with a member's desire for his group to achieve success and how his attitude toward work affects the strength of this desire. We think it reasonable that one who carries a fear of failure (FF) or a hope for success (HS) into solo activities will act in accord with this disposition when anticipating efforts by a group in which he belongs. In addition, a person's competence in the activities required of him as a member may be good, poor, or in-between. His competence in these activities, we assume, colors his anticipation of his group's performance.

We have observed in previous studies that members will change the aspiration they favor for their team if their group's score is different from what they had expected it would be and will approach the group's task or avoid it depending on their beliefs about the potential consequences from that group score (Chapters 2 & 5). The effects of one's fear of failure, hope for success, or competence, upon these reactions are examined in this chapter.

Hope for Group Success and Fear of Group Failure

There is good evidence that individuals who are constrained to select a level of aspiration for a performance on a solo task choose a level which is either very easy or very difficult if they are disposed to avoid failure and choose one that is in the intermediate range of difficulty if they are disposed to approach success. Thus, FF persons tend to have a larger variance among their stated personal aspiration levels than do HS persons (Atkinson, 1957).

Imagine that a group is placed in a level of aspiration situation in which its members work interdependently and are constrained to decide upon a collective aspiration level by means of a discussion and vote among them. We have observed (Chapter 6) that members of groups for whom failure is costly but success is not rewarding appear to develop a fear of group failure while members of groups for whom success is rewarding but failure is not costly seem to develop a hope for group success. Members who fear their group's failure, moreover, have more variance among their aspirations for the group than members who expect their group's success.

The major interest of the present investigation lies in the prediction that members who are disposed to hope for success in their individual efforts will have less variance in the aspirations they separately propose for the group than members who are disposed to fear individual failure. Groups composed solely of HS persons, moreover, should have less variance in their group-decided unanimous aspirations than groups composed of FF persons.

The measurement used in determining a member's personal tendency to avoid failure or to approach success is a revised form of the Mandler-Sarason _Test_ _Anxiety_ _Questionnaire_ (TAQ) prepared for high school students (Cowen, 1957). The relation of the TAQ with other measures, discussed in Mandler and Cowen (1958) and Atkinson and Litwin (1960), as well as the convenience of this test, suggested to us that it would be an adequate measure of fear of failure, and, indirectly, of hope for success.

High Test Anxiety (HiTA) will hereafter refer to individuals who are assumed to have a strong desire to avoid failure and Low Test Anxiety (LoTA), to individuals who are assumed to approach success.

Member's Competence

Suppose that within the group in a level of aspiration situation each member is given information describing his personal competence in the work required of him, relative to the competence of other members. He is told he is very competent, very incompetent, or in between, but is not told about the competence of specific others. In such an instance, we assume, a member's awareness of his competence is likely to determine his aspiration for his group and his reaction to the performance of the group. One who is high in competence (HiComp) should develop confidence in himself and a readiness to strive for success whereas one who is low in competence (LoComp) should develop low confidence in himself and a tendency to avoid failure. It follows, then, that HiComp members may be expected to have less variance among their stated aspirations for the group than LoComp members.

But HiComp and LoComp members differ we assume in another respect beyond their tendency to act as HS or FF persons might do. They differ in their relative amount of interest in the group's success and in their own quality of performance. A HiComp person is likely to be less uneasy about his personal achievement than is a LoComp person and therefore more interested in the performance of the group than the LoComp member. The LoComp member, compared to the HiComp one, is likely to be more displeased by his status in the group so that the performance of the group as a whole has relatively less salience for him. HiComp persons, in short, are expected to feel more comfortable about their group membership, to be more engrossed in achievement of the group's task, and to be more concerned about the group's aspiration than LoComp persons.

The strong self-concern of the LoComp person should generate a desire in him to improve his competence and status, or if that is not possible, a desire to prevent unfavorable personal consequences as a result of his inadequate talent. We anticipate, then, that the LoComp member, more than the HiComp one, will propose low aspirations for the group, either because his personal rating might improve if the group has an easier task requiring less skill on his part or because the group is more likely to succeed on an easier task, thereby making his personal performance appear better. The LoComp member is expected to show more signs of withdrawing from the group and of avoiding the task or its consequences than the HiComp member, just as do members of failing groups compared to those in succeeding groups (Chapters 2 and 5).

We expect that a member whose perceived level of competence is between HiComp and LoComp, designated as MidComp, will have reactions somewhere between those ascribed to the other two. A member, finally, who has no reliable evidence about his personal competence (Control) can be expected to behave in a manner most similar to one with Hi Comp since the Control member, just as the Hi Comp one, has relatively less concern about his own competence and is likely to assume that he is doing well until it is proven otherwise (Chapter 6).

Method

Subjects. The participants in this study were 144 eleventh grade boys attending a suburban high school. They were told to report to the experimental room in their school building, four at a time, by a school official who described the experiment to them as "part of a testing program."

Test anxiety. About five weeks prior to the experiment all eleventh grade students, girls and boys, were given the high school form of the Test Anxiety Questionnaire by their homeroom teachers, who introduced it as part of the counseling division's activities. After putting aside the girl's scores and those of boys with physical handicaps, we were left with 162 potential subjects. The one-half of these with the higher scores were designated as HiTA and the rest as LoTA. Groups, uniformly composed of either four HiTA or four LoTA persons, were created by a clerk in the school from among those students who had either a gymnasium class or a free period at the same hour.

The Test Anxiety Questionnaire asks the respondent to recall his reactions to paper and pencil examinations in school courses. We were uncertain that boys with high anxiety about school examinations would have similar anxiety about the physical-motor test used in this experiment. Thus, subjects were asked to complete a brief, ten-item, questionnaire immediately after they had learned how to perform the experimental "test" and had tried it for several practice trials. This brief questionnaire requested self-ratings of their own competence in motor tasks. A typical query: "If I took a test in physical coordination, I would probably score" (Very low-Very high). Persons in groups with HiTA rated themselves more inept in physical coordination than those in groups with LoTA (t=3.31, $p < .01$). We conclude that a person's reported Test Anxiety is a reasonably good indicator of his perception of skill in the test immediately before him and therefore an indirect indicator of his hope for success or fear of failure on the present task.

Experimental task. When the subjects entered the laboratory, the experimenter introduced himself as a staff member from the University Testing Service (fictitious) and explained that he is engaged in studies of the abilities needed in today's technology. The ability being tested, "judgmental coordination capacity," was said to be important in the effective use of effort required by modern machinery and organizations. It was described, with appropriate examples, at some length.

The task apparatus, already explained in Chapter 2, is a twelve-foot board with a channel running its length wide enough to accomodate a wooden croquet ball. All participants simultaneously grasped a six-foot long, aluminum, pole and pushed the pole in unison against the ball. The ball moved down the channel and stopped next to one or another number on the side of the channel. That number was the score earned for that shot. Five shots made a trial. The possible score for any shot was from zero to ten, and for any trial the maximum was fifty. In general, there is little learning on this task--all groups get about the same total score regardless of the trial or the social conditions existing for the team.

Before each trial, participants privately completed a brief form: "In my opinion, on this trial our team will be able to get a score of ___." This is called the member's aspiration for the group. When they completed these forms and handed them in, the subjects were asked to discuss and reach a unanimous agreement on the same query. This group decision is called the group aspiration. Subjects performed two practice trials and five experimental trials. They provided aspirations for an additional trial (sixth) but did not perform the task for that trial.

Competence of members. The aluminum pole had four rubber grips on it at equal intervals and a wire cable extended from the end of the pole behind the participants. This cable was attached to several black boxes with dials, dancing indicator hands, and small lights. Each participant was asked to pick up the pole with his right hand (carefully, since it was said to contain electronic equipment) at the grip labelled with the letter assigned to him when he arrived in the room. In addition, he was asked to hold another grip, similarly festooned with wire cable, in his left hand.

These pieces of equipment made it credible for the experimenter to assert that we were measuring "electrical skin conductance" and several other variables which would tell us how well each member is doing, and to "estimate how much skill you as an individual are contributing to the group's score." Before each trial began, E closed switches which turned on the lights and activated a quiet buzzer--ostensibly parts of the measuring machinery.

Groups typically added their score aloud as they shot; the total group score was announced by the experimenter after each trial. Then, he retired behind a screen to "read" the results for each individual. These scores were privately reported to members on the forms containing their levels of aspiration for the group, previously recorded. The information on relative competence was provided in each of three different ways, a numerical score (60 through 100), a letter grade (A through E), and a numerical rank on the ordering of the members. Thus, the person in the HiComp condition (determined by the pen he selected when he entered the room) was given scores in the 90's, grades of A and the number one rank for each trial. Persons in LoComp were given scores in the 60's, grades of D+ or lower, and a rank of 4. One member was told that, regrettably, his dial was not working and that he could not be given information on his score at the moment; the hope was expressed that it would work on the next trial. It never did. This is the Control condition. The participants were requested not to show or mention their competence ratings to others.

Post-experimental questionnaire. After the balloting had been completed for a sixth trial, the routine was interrupted and the participants were asked to complete an Appraisal Questionnaire. It was introduced as an effort to determine their reactions to the test thus far so that procedures could be improved for future testees. The queries, seven-point, Likert-type rating scales, are described at appropriate places in the presentation of the results. Following this, the experimenter announced that the test was completed. He carefully described all deceptions and explained the reasons for them. In addition, subjects were asked not to reveal the nature of the experiment to classmates until several weeks had passed.

Results

Levels of Aspiration, Choices and Shifts

Members proposed fairly similar levels of aspiration for their group regardless of their test anxiety. Those in the LoComp conditions chose somewhat lower aspirations for the group, compared to members in other conditions of competence, but only on the third and fifth trials, and on these the value of *p* was about .10. Thus, there is no reliable support for the prediction that the least competent member would wish his group to choose easier tasks than would the most competent member.

We predicted that persons in the LoTA condition would have less variance in their aspirations for the group than those in the HiTA condition and that LoTA groups would have less variance in their group's aspirations than HiTA groups. The results shown in Table 7-1 provide strong support for these predictions. Persons in the HiComp condition, however, did not have less variance in their aspirations for the group than those in the LoComp condition.

Table 7-1

Variance in Aspiration Levels Among Members and Groups Differing in Test Anxiety

	Member's aspiration for group			Group decided aspiration		
Trial	HiTA variance N=72	LoTA variance N=72	F	HiTA variance N=19	LoTA variance N=19	F
1	54.39	20.17	2.70**	38.16	9.93	3.84**
2	54.26	12.52	4.33**	53.91	7.71	6.99***
3	40.67	14.71	2.76**	33.92	11.99	2.83*
4	65.61	10.33	6.35**	61.81	6.36	9.72***
5	57.74	12.08	4.78**	48.69	9.93	4.90**
6	50.25	9.55	5.26**	46.08	6.47	7.12***

$^{*}p < .05$

$^{**}p < .01$

$^{***}p < .001$

Because the groups performed an odd number of trials (five), it was possible for us to designate each group as a success or a failure, depending on whether it attained its level of aspiration more often than it failed or failed more often than it succeeded. Among all groups, 65 per cent failed on more trials than they succeeded and 35 per cent succeeded on more trials than they failed. Differences in the Test Anxiety of the groups did not alter this result. In previous investigations we have observed that members raise their aspirations for their group following a trial in which it succeed and lower their aspirations following a trial in which it fails. Here again, the rule, "succeed, raise; fail, lower" was followed in the present study ($X^2 = 247.56$, $\underline{p} < .001$), regardless of the Test Anxiety or the competence of the members.

If we ignore whether the group attained its level of aspiration and examine the direction of the shifts that individual members made in the aspirations they preferred for their group, we see that HiTA members tended to stay at the same level more than did LoTA members and that LoTA members tended to raise their aspirations more than did HiTA persons. These results are shown in Table 7-2. Members with different levels of competence, however, did not differ significantly in the direction of their shifts in preferred group aspirations.

Table 7-2

Direction of Changes in Member's Aspirations for Group, Trial k to Trial k+1, All Trials

		Aspiration for group for trial k is changed for trial k+1 by:		
Test Anxiety	N	Raising aspiration level	Lowering aspiration level	Staying at same level
High	360[a]	125	137	98
Low	360	150	141	69

$X^2 = 7.36$, $p < .05$

[a] Eighteen groups, four members, five trials

Atkinson (1957) has reported that individuals make more "wild jumps" in changing their aspiration levels from trial to trial when they are motivated to avoid failure than when they are motivated to approach success. We expect to find, therefore, more wild jumps in members' changes of aspiration for the group in the HiTA condition than in the LoTA condition. The number of instances in which subjects moved their aspiration for the group two standard deviations or more from the level they had proposed on the trial immediately preceding was taken to be the measure of this tendency. In the HiTA condition there were 90 such cases and in the LoTA 65, rather equally distributed among success and failure trials. These results are in the predicted direction, significantly so ($X^2 = 9.91$, $p < .01$). The competence of members did not significantly affect their tendency to make wild jumps.

Because we expect persons in HiComp to be more concerned about and interested in their group than persons in other conditions of competence, we anticipate that their preferred aspirations for the group will deviate less from the group's decisions than will other member's. The amount that each member changed his aspiration for the group from one trial to the next was correlated with the amount of change in the group-decided (unanimous) aspiration from one trial to the next. These correlations are shown in Table 7-3. It can be seen that in the MidComp and LoComp conditions the trend is toward less relationship during the series of trials. In HiComp, however, and in the Control condition to a lesser degree, the correlations between own aspiration and the group-decided aspiration increase during the series of trials. These results might appear to suggest that HiComp persons were more influential in determining the group's aspirations than were other members, but observation of the groups while they were deciding on their aspirations did not support this interpretation because the best compromise between the two extreme aspirations for the group, whatever these were, was clearly the preferred problem solving procedure and the HiComp person did not appear unduly to affect this process. The fact that members did not know who had what level of competence rules out the likelihood that members deferred to the HiComp member's proposals because of his greater expertness.

Table 7-3

Changes in Member's Aspiration for Group and Changes in Group Aspirations, Correlated[a]

Changes during	Control N=36 r	High N=36 r	Mid N=36 r	Lo N=36 r
Trial 1 to 2	.72	.43	.81	.51
Trial 2 to 3	.82	.42	.79	.58
Trial 3 to 4	.76	.68	.77	.51
Trial 4 to 5	.61	.76	.51	.42
Trial 5 to 6	.60	.75	.34	.42

[a] All _rs_ have _p_ values $< .025$ or better.

Members' Evaluations of Performance

Reactions to the group's score. In the post-experimental questionnaire members were asked, "All in all, how well do you think your team performed on this test today?" They were also asked, "How satisfied or dissatisfied do you feel about your team's performance on this test today?"

Members in HiTA groups were more satisfied with their group's performance than those in LoTA groups (the obtained scores were approximately the same in both HiTA and LoTA groups). The higher his Test Anxiety, moreover, the more the member was satisfied with his team's score in the HiComp ($r=.40$, $p < .01$) and the Control ($r=.39$, $p < .01$) conditions, but not significantly among those in the MidComp ($r=.00$) or the LoComp conditions ($r=.24$).

When we consider whether the group was a failure or a success, as in Table 7-4, it is evident that members rate their team less favorably if it is a failure and more favorably if it is a success within the LoTA condition. Members do not rate a succeeding group differently from a failing one, however, within the HiTA condition. HiTA participants were either unaware of the successs or failure of their group or did not react differentially to the group's success or failure as did the LoTA participants.

Table 7-4

Evaluation of Group and Member Performance in Separate Conditions of Test Anxiety

Query[a]	HiTA Success group N=24 (A) $\bar{X}$	 Failure group N=48 (B) $\bar{X}$	LoTA Success group N=28 (C) $\bar{X}$	 Failure group N=44 (D) $\bar{X}$	Sig. *t*'s. col. diffs.
Evaluation of team's performance	5.17	4.73	5.04	4.27	C-D, 3.29** B-D, 2.10*
Satisfaction w. team's performance	5.42	4.98	4.93	4.23	C-D, 2.40* B-D, 2.94**
Evaluation of own performance	4.38	4.93	4.67	4.65	n.s.
Satisfaction w. own performance	4.43	4.77	4.71	4.05	B-D, 2.12*

* < .05
** < .01

a See text for wording of queries.

We had expected that LoComp persons would evaluate their team's performance lower and would express less satisfaction with the team's performance than would HiComp persons. The results in Table 7-5 indicate that this prediction is well supported.

Table 7-5

Evaluation of Group and Member Performance in Separate Conditions of Member Competence

Query[a]	Control N=36 (A) $\bar{X}$	HiComp N=36 (B) $\bar{X}$	MidComp N=36 (C) $\bar{X}$	LoComp N=36 (D) $\bar{X}$	F	Sig. ts col. diffs.
Evaluation of team's performance	4.75	5.08	4.67	4.39	2.56*	B-D, 2.83**
Satisfaction w. team's perform.	4.86	5.06	5.00	4.33	2.61*	B-D, 2.63** C-D, 2.43**
Evaluation of own performance	4.50	5.28	2.91	4.12	6.67***	A-B, 3.16*** B-D, 3.91*** C-D, 2.74**
Satisfaction w. own performance	4.53	5.19	4.81	3.37	11.38***	A-B, 2.01** A-D, 3.40** B-D, 4.81*** C-D, 4.11***

* $p < .10$
** $p < .05$
*** $p < .01$

[a] See text for wording of queries

In the post-experimental questionnaire queries were included to determine the members' reaction to the task and the experimental setting. Examples of these are listed in Table 7-6. The responses on each were correlated with the member's evaluation of the group's performance and with his satisfaction with the group's score. Significant correlations were obtained with queries about how hard teammates were perceived to try on the task, the member's concern to have his group get a good score, the member's degree of interest in the task, his perception that people usually try hard on a task like this, and his perception that the test is a valid measure of the ability it purports to measure. A non-significant correlation was obtained, in contrast, with the perception that teammates were engrossed in improving their personal scores. Thus, higher evaluation of the group and greater satisfaction with its performance is associated with the view that others are trying hard on the task and that it is worthy of that effort.

Reaction to personal competence. In the post-experimental questionnaire subjects were asked, "All in all, how well do you think you performed your part on this test? And, "How satisfied or dissatisfied do you feel about your personal performance on this test today?" As would be expected, persons in the LoComp condition evaluated their personal performance lower and were less satisfied with that performance than those in any other level of competence (See Table 7-5). The level of a member's Test Anxiety did not generally modify his evaluation of his own performance or his satisfaction with that effort. Among those who were in failing groups, however, persons in the LoTA condition were less satisfied with their personal performance than those in the HiTA condition (See Table 7-4). We should add that members in HiComp were more satisfied with their personal ratings in the LoTA condition than in HiTA and that members in LoComp were more dissatisfied with their personal performance in the LoTA conditions than in HiTA (F=3.26, $p < .05$). Thus, hope for success, which is assumed to prevail among those with LoTA, generated greater satisfaction with self among good performers and

greater dissatisfaction with self among poor performers.

We predicted that members in the HiComp condition would have more interest in the success of their group and less interest in improving their personal competence than would participants in the LoComp condition. The mean ratings on direct queries (in the post-experimental questionnaire) about the comparative degree of interest in the group's performance versus interest in personal performance were not significantly different for persons in separate conditions of competence. When, however, one considers the TA of the member as well as his level of competence, it is evident that persons in the LoComp condition become more concerned with their own personal output as their TA score is higher, while persons in the HiComp condition become more concerned with the group's output as their TA is higher. The greater the member's TA: the more LoComp members perceive it to be important to do well personally on the test (LoComp r= .33, HiComp r= -.10), the more satisfaction they have in their personal performance (LoComp r=.44, HiComp r=-.23) and the less they are satisfied with the team's performance (LoComp r=.24, HiComp r=.40). A correlation of .32 is significant at the .05 level here.

Approaching or Avoiding Behavior

When the scores earned by a group are lower than the members expect, the latter are likely to avoid the task; when the scores are better than they expect, the members tend to approach the task (Chapters 2 and 5). Because persons with HiTA avoid moderately challenging situations more than those with LoTA, we anticipate more avoiding among the Hi's than among the Lo's. We find that the higher his TA, the less the member

personally feels responsible for the score of the group ($r=-.17$, $p < .05$) and the smaller he believes his part to be in the work of the group ($r=-.16$, $p < .10$). Members with higher TA also felt more pressure from teammates to do well ($r=.23$, $p < .05$).

We predicted that those in the LoComp condition would be more avoiding in their reactions to the test than those in HiComp of MidComp conditions. The results in Table 7-6 support this prediction.

Table 7-6

Coping Behavior by Members in Separate Conditions of Competence

	Control N=36 (A) $\bar{X}$	HiComp N=36 (B) $\bar{X}$	MidComp N=36 (C) $\bar{X}$	LoComp N=36 (D) $\bar{X}$	F	Sig. ts col. diffs.
Felt pressure from teammates[a]	3.58	4.36	3.25	3.69	3.53**	A-B, 2.02*
How large your part in gp.[b]	4.47	4.72	4.81	4.11	3.02**	B-D, 2.24* C-D, 2.94**
Imptnt. to equal other teams[c]	5.78	5.11	5.50	4.89	2.98**	A-B, 2.00* A-D, 3.07**
Importance of ability to person[d]	5.75	5.81	5.94	5.00	4.30***	A-D, 2.58* B-D, 2.42* C-D, 4.05**
Importance of ability to group[e]	5.61	5.44	5.39	4.81	3.10**	A-D, 3.10** B-D, 2.23*
Value of tests like this[f]	5.06	5.11	4.81	4.06	6.12***	A-D, 3.29** B-D, 4.34*** C-D, 2.60*
Validity of test[g]	4.83	5.22	5.11	3.86	9.58***	A-D, 3.36** B-D, 4.81*** C-D, 4.48***

* $p \leq .05$ ** $p < .01$ *** $p < .001$

[a] To what extent did you feel there was pressure on you from teammates to try for a higher score than you really believed you could make? (Very little-Very much)

[b] How large a part did you feel you played in your team's performance? (Very small-Very large)

[c] How important is it for your team to do as well as other high school groups have done on this test? (Very unimportant-Very important)

[d] In your opinion, how important or unimportant is it for you personally to be good in team muscle control? (Very unimportant-Very important)

[e] How important is it for groups to be good at the ability measured by this test of team muscle control? (Very unimportant-Very important)

[f] How valuable are tests like this for high school students like yourself? (Worthless-Very valuable)

[g] In your opinion, how good is this test as a measure of your team's muscle control? (Very poor-Excellent)

Feelings of worry or tension should be greater among persons with higher TA scores and in the present results this was the case. The higher a member's TA, the greater the tension he recalled having felt during the test--"too tense to give his best performance" ($r = .22$, $p < .05$), and the more he recalled being worried during the experimental sessions ($r = .22$, $p < .05$). The level of a person's competence, however, did not determine his perceived worry or tension.

Discussion

Our interest in examining how Test Anxiety and member Competence affect group aspirations arose in previous studies. In those investigations we observed that the variance in members' aspirations for their group was less when they had a more responsible task (Chapter 5), when their group was stronger (Chapter 6), and when their group was more likely to be rewarded for a success than punished for a failure (Chapter 6). These phenomena were conceived as indicators of the desire for group achievement (DGach), defined as a motive to strive for the success of one's group. The desire was taken to be an analogue of the personal need for achievement (Nach) and the properties of Nach and its effects on personal aspirations, described by Atkinson (1957), were used as a program to suggest what to anticipate when examining the origins of DGach and its consequences for group aspirations. It appeared, in the earlier studies, that the motives of members could be conceived as a concern for group success or a fear of group failure. It seemed important to examine how personal dispositions to hope for success or to fear failure on solo tasks (as measured by the Test Anxiety Questionnaire) and how more immediate evidence about personal competence of the member served to determine group aspirations.

The results of the investigation at hand reveal that a person with a higher score on the Test Anxiety Questionnaire becomes more worried and tense when participating in a test of his group even when this task is an interdependent effort with several other persons and provides a single group score. These results, and others, suggest that anxious persons react to the testing of one's group as well as to the testing of oneself.

Members with greater Test Anxiety, moreover, have less preference for moderate goals and make more wild jumps in changing their aspirations than members with less Test Anxiety. Thus, participants with greater Test Anxiety act as do those who have more desire to avoid failure than to strive for group success--the success and failure, in this case, of the group. The tendency to avoid failure for those subjects with higher Test Anxiety is further seen in their perception that they had a smaller part in the group's task, were less responsible for the group's score, felt more pressure being put on them by teammates to work harder, and described the group's score as more satisfactory regardless of whether the group had been successful or otherwise in reaching its aspirations. In an unreported study in which success and failure of the group were varied by the experimenter, and thus the contrast between them made stronger than in the present investigation, participants with high Test Anxiety were not differentially influenced by the group's success or failure while those with less Test Anxiety reacted sharply and differentially to group success and failure.

A member's competence in the group's work, we might assume, would generate a situationally relevant hope for success or fear of group failure.

Thus, it would not be surprising if members in the HiComp condition reacted similarly to those with LoTA, while those in LoComp reacted similarly to those with HiTA. The results do not reveal a neat parrallelism between Test Anxiety and Competence, but notable similarities occur. Consider these.

Persons with HiComp are more concerned about the success of the group while those with LoComp are more concerned about their personal fate. Members in the HiComp condition, for example, preferred aspirations closer to the group-decided goals and evaluated the group's performance more favorably. Participants with LoComp withdrew from the test more than those with any other level of competence not only by denying responsibility for the group's score but also by derogating the validity of the test and the importance of the tested ability. As a participant's Test Anxiety is greater, he is more concerned about his personal output if he is in the LoComp condition and more concerned about the group's output if he is in the HiComp condition. Speaking generally, it appears that the Test Anxiety stimulates desires either to commit oneself to strive for success or to avoid challenges, whereas member Competence stimulates tendencies to approach or to avoid the specific task and the consequences which might occur because one's ability in it is high or low.

Summary

Teams of four persons performed a series of trials on the task described in Chapter Two. The teams were uniformly composed of persons who were either highly anxious about taking tests or not very anxious about them. Within each group a given member was led to believe that he was either the highest, middling or poorest among the members in the competence required to perform the group's task. A fourth person was given no evidence about his competence (Control).

The major findings are briefly listed.

1. Participants with greater Test Anxiety reported stronger feelings of tension and worry than those with less Test Anxiety.

2. Members with less Test Anxiety had less variance in their aspirations for their groups, and teams composed of persons with less Test Anxiety had less variance in their group-decided (unanimously agreed upon) aspirations.

3. Members with greater Test Anxiety had more wild jumps in their changes of aspirations for the group than did members with less Test Anxiety.

4. Members with greater Test Anxiety were more satisfied with their group's performance than those with less Test Anxiety.

5. Members with greater Test Anxiety seemed to be less aware of what was happening in the performance of their group than members with less Test Anxiety.

6. Members with less Test Anxiety, compared to those with more Test Anxiety, had greater satisfaction with self among good performers and greater dissatisfaction with self among poor performers.

7. Members in the HiComp condition were more concerned with the group's fate and its success than members in the LoComp condition.

8. Members in the Lo Comp condition evaluated the group lower and were less satisfied with its performance than were members in the HiComp condition.

9. Members in the Lo Comp condition avoided and disapproved of the task more than members in any other condition of competence.

References

Atkinson, J. W. Motivational determinants of risk taking behavior. Psychol. Rev., 1957, 64, 359-372.

Atkinson, J. W., and Litwin, G. H. Achievement motive and test anxiety conceived as motive to approach success and motive to avoid failure. J. abnorm. soc. Psychol., 1960, 60, 52-53.

Cowen, Judith E. Test anxiety in high school students and its relationship to performance on group tests. Unpublished doctoral dissertation, School of Education, Harvard University, 1957.

Mandler, George, and Cowen, Judith E. Test Anxiety Questionnaires, J. consult. Psychol., 1958, 22, 228-229.

Chapter Eight

Difficulty of a Group's Task and Collective Coping Behavior

Alvin Zander and James Ledvinka

Members of a group who have jointly agreed upon a level of aspiration are likely to engage in coping behavior if the group's subsequent score is different from their expectation. One form of this behavior, called aspiration-coping, is denoted by members' changing what they expect their group will achieve in the future as the score of their group changes. The direction of these shifts in aspiration reliably follow the rule, "succeed, raise; fail, lower." A second type, called consequence-coping, is indicated by members' changing their attitudes toward the group's task, the importance of doing well on the task, and the like, when the attractiveness of the group's score changes because the score itself has changed or the value attributed to the score has changed. The direction of these shifts in attitude should follow a rule, "succeed, approach; fail, avoid."

Consequence coping includes several different types of affect-laden responses and, in contrast to changes in the level of aspiration, has had relatively little study. Perhaps the mixture of affect-laden responses will eventually be separated under several conceptual types, for the present however we assume that changes in a group's score lead to changes in the behavior of members, other than shifts in the group's level of aspiration, and that it will be useful to examine the origins and effects of these behaviors.

Aspiration coping may occur at the individual level as members change their private views about appropriate aspirations for the group, or at the group level, as group-decided changes in aspiration occur. Similarly, consequence-coping may occur in the changes made by separate members or in the agreements among all members.

In prior experiments on group aspirations we have regularly asked individual members to respond to queries which might reveal consequence coping. Examples of typical questions are listed in Table 8-2. The members gave favorable responses to these if their group had been successful and unfavorable responses if their group had been a failure. Assuming that favorable responses are indicative of "approach" reactions and that unfavorable responses are indicative of "avoid" reactions, these results are in accord with the rule, "succeed, approach; fail, avoid."

What are they approaching or avoiding? A successful performance in which the group's score is above its level of aspiration generates favorable (approaching) reactions, we belive, because it promises a high probability that desirable consequences will follow for the members. Examples of such consequences are: approval by observers, increase in bonus payments, assurance that the group has good teamwork, and the like. A failing performance, in which the group score is below its level of aspiration, generates unfavorable (avoiding) reactions because the low score suggests that the undesirable consequences will follow. Consequence coping behavior then is to ensure that potentially favorable outcomes will in fact eventually occur and that potentially negative outcomes will in fact not occur.

Any of a wide variety of behaviors may help one to approach or avoid. What will work and what is used depends upon conditions in the social environment.

Our first interest in the present study is a simple one. Will sets of persons, when they discuss their reactions to their group's success or failure, reach unanimous agreements resembling the mean reaction of separate individuals? Will group-decided coping be approaching after a group success and evading after a group failure? Or, will group agreements introduce characteristics which are not evident when members privately state their views on these matters?

The difficulty of the task attempted by a group will determine, we assume, the members' reactions to success or failure. A group success on a more difficult task is clearly more desirable than a success on an easy task (Atkinson, 1957). A group failure on an easy task, moreover, is more undesirable than a failure on a difficult task. It follows that the more difficult the group's task, the more will members have favorable reactions to the task, regardless of whether the group succeeds or fails. Success on a difficult task, furthermore, will generate more approaching reactions than success on an easy one; and failure on an easy task should generate more avoiding than failure on a difficult task.

Consequence coping behavior is implicitly an effort following performance of a challenging task to ensure that subsequent events will develop as the performer prefers them to occur. An attempt was made in this experiment to vary the degree that the consequences stemming from group success or failure were perceived as likely to occur or not occur for the subjects. A perception that given consequences will certainly occur was to be created by telling subjects that their scores on the experimental task would be reported to school officials who make use of test data about students in various decisions concerning the student's fate. These persons would, in effect, provide good consequences for a good score and bad consequences for a bad one. Low probability was to be created by telling subjects that the scores were of no interest to anyone in the school and were useful only to the experimenters, whom the subjects would not see again. Thus, the likelihood that either good or bad consequences would follow from high or low scores was in effect to be nil. There were no noteworthy effects from the effort to introduce this variable into the experiment. The results suggested that the subjects were as interested in the potential good or bad consequences of their scores in the low probability treatment as in the high probability one. Apparently participation in this experiment excited subjects' desire to do well regardless of what use might be made of their scores after the testing was completed. The presence of this potential variable is ignored, therefore, in the presentation of method and results following.

Method

Subjects were 240 11th and 12th grade boys in a suburban high school. A reasonably empty storeroom was used for the laboratory.

Experimental Task

Three subjects, assigned by a school official, appeared at each experimental session. The experimenter (E) introduced himself as a representative of the University Testing Service (fictitious) and explained that he was testing all junior and senior boys for Team Coordination Capacity, ability to work effectively in a team relationship. The subjects were seated at a table while E explained the alleged importance of this ability to persons and organizations in modern society.

They were told that the three students were to collaborate in constructing a design made of dominoes, that they would work together on the same design, that they must work in accord with particular rules for the test and that they would have several trials on the test.

Along one wall, placed so that all Ss could see them, were thirteen large poster cards, each displaying a geometric design made of dominoes. The designs regularly increased in complexity as already described in Chapter 5. The simplest design contained six dominoes and the most complex, eighteen. On each card there was also a large number in red with a percentage sign. The Ss were told that these numbers described the proportion of teams like their own who had been able to complete that design within the allotted time. These percentages, intended to give the subjects an indication of the probability of being able to attain each level of difficulty, were high for the simplest design (98 per cent) and low for the most difficult design (8 per cent), with fairly equal gradations for each design between these two extremes. The series of designs, therefore, constituted a thirteen point scale of difficulty in group tasks, from very easy to very difficult.

Each subject was furnished a bucket with a supply of dominoes sufficient to complete his part of the design. The group's duplication of the design was to be three layers deep and each participant could place dominoes in any layer of the design or take pieces from a teammate's supply to put in a place when needed. The design, however, had to begin with a domino having a single dot and a two-dot domino could not be put into the design until a single-dot domino had been placed; a three-dot domino could not, in turn, be placed until the two-dot one was found, and so on in order. This requirement of building in succession had to be followed for each of the three layers in the design.

Members were informed that the design on which the group would work (the group's level of aspiration) was to be determined by the team. All subjects first completed private ballots on which they stated the design they preferred their group to attempt (member's aspiration for the group). These ballots were given to E and were not exchanged among the Ss. The subjects were then asked to discuss and reach a unanimous agreement on the level of difficulty they would prefer to attempt (the group's aspiration).

Success and Failure

Subjects were informed that their effort on a given design would be rated either a success or a failure; a success if they finished within the time limit, otherwise a failure. The time limit was the same no matter what design they chose. Half of the groups were told that they had succeeded after every trial and half were told that they had failed after every trial.

Difficult-Easy Conditions

In order to generate a condition in which subjects would chose to work on more difficult tasks, the E said: "Now your overall score on all trials on the test will be computed by a complex mathematical procedure which is difficult to explain, but I can tell you this much, we give the most scoring weight to how difficult the design is that you choose. Therefore, it is best to choose more difficult designs, that is, something around number ten. In fact, we have found that teams of high school juniors and seniors will almost always get the highest total score they can get if they choose design number ten."

To generate a tendency to select easier tasks they were informed that the least scoring weight is given to how difficult the design is that is chosen. "Therefore, it is best to choose easy designs, that is, something around design number four, etc. ...."

Groups were assigned task number ten or four as their beginning level of aspiration by the experimenter, depending upon whether they were in the Difficult or Easy condition of the study.

Coping Questionnaires

After their selection of the design for a fourth trial, the subjects were given an appraisal questionnaire. It was presented to them as an interruption in the test and a means whereby the University Testing Service might learn to do a better job when testing high school students. Examples of queries in this instrument are shown in Table 8-2. All were Likert-type, seven-point rating scales.

When these questionnaires had been completed, E then asked the teams to arrive at a unanimous group agreement on the ratings they would assign to three queries, all of which had been included in the private questionnaire (See Table 8-3). In order that they might speak freely during these group discussions, E left the room until they notified him that they had completed their group discussions and ratings.

The test was thus said to be completed and participants were told about the purposes of the study; any deceptions and the reasons for them were explained. Their questions were answered and appropriate assurances were given them about the nature and meaning of their behavior on the test. They were asked to maintain secrecy about the experiment until a stated deadline had passed.

Results

Group Aspirations

As a result of discussion and deliberation among the members, groups in the Difficult condition chose tasks about five levels higher than those in the Easy condition (Mn. Diffic. = 10.60, Mn. Easy = 5.12, p of diff. $< .0005$). Successful groups chose tasks about three levels higher than Failure groups (Mn. Success = 9.53, Mn. Failure = 6.62, $p < .0005$). There were no noteworthy interaction effects between Difficult-Easy conditions and Success-Failure conditions on the mean group aspirations. There were no significant differences between the mean of the members' private aspirations for their group and the group-decided aspiration in any treatment of the study.

The average changes from one trial to another in the level of aspiration a member preferred his group to select can be seen in Table 8-1. The mean change was greater in the Easy condition than in the Difficult one and was larger following a group's Success than a group's Failure. Clearly, the biggest shifts (in this case, upward) occurred in the Easy-Success treatment and the smallest ones in the Easy-Fail. The amount of shift was not unduly restricted by crowding one or the other end of the scale of difficulty in either of these conditions. Repeated success apparently stimulated subjects in the Easy condition to ignore E's admonitions to choose level four and instead they moved upward and tried a more difficult level. In the Easy-Fail treatment, apparently, group members most often decided to try the same task over after the group had failed, rather than moving downward to a less difficult level.

Table 8-1

Mean Shifts in Aspiration for Group,

Trials One, Two and Three Summed

	Difficult	Easy
Success	+.623	+1.63
Fail	-.426	+ .082

$\underline{t}$, Difficult versus Easy = 2.76, $\underline{p} < .005$

$\underline{t}$, Success versus Fail = 7.30, $\underline{p} < .001$

Effects of Group Task Difficulty

Working on a more difficult task is usually more attractive than working on a less difficult one, since a successful performance at the difficult level provides greater satisfaction and more likelihood of desirable consequences, while failure at a more difficult level provides less dissatisfaction and less likelihood of undesirable consequences. Several sets of findings are relevant to this general hypothesis.

a. The more difficult the group's task, the more favorably members evaluate the group's performance.

In the post-experimental questionnaire participants were asked, "All in all, how well do you think your team performed on this test today?" Responses to this query were correlated with the average difficulty of the tasks on which the group had worked. For all subjects this relationship was $\underline{r} = .50$ ($\underline{p} < .0005$), for those in the successful groups it was .35 ($\underline{p} < .001$) and for those in the failure groups it was .23 ($\underline{p}$ .005). Clearly, group work on a more difficult task generated higher evaluation of the group and this relationship was somewhat stronger in success than in failure.

The evaluation of the team's performance was discussed by each team in the experiment, with the requirement that a unanimous decision be reached among the members. This group decision was not different from the mean of the members' private responses to the question in any treatment of the experiment.

b. The more difficult the group's task, the more there is approaching rather than avoiding in consequence coping responses.

Operationally, greater use of approach behavior is denoted by more favorable responses among the queries shown in Table 8-2. It can be seen in Table 8-2 that significant correlations were obtained between the average level of difficulty in the group's task and the responses to these queries. It is interesting to note that a group success on a more difficult task appears to stimulate more approval of the test as a test (first two rows in middle column) while a group failure on a more difficult task seems to stimulate more unfavorable views on how hard people usually try or ought to try on this task (third and fourth rows in third colunn).

An index of the degree of approach in consequence coping was created by summing responses to all of the items in Table 8-2 (plus one other: "How let down do you think people usually are when their team fails this test?"). This index was correlated with the mean level of group task difficulty for each group. Among all subjects the relationship was $\underline{r} = .38$. For those in the Success condition this correlation was .21 and for those in the Fail condition it was .24. All three of these correlations have $\underline{p}$ values better than .05.

c. The more difficult the group's task, the more members propose similar aspirations for the group.

The amount of discrepancy between members' stated aspirations for their group (privately voted) and the subsequent group decision unanimously reached by the members was correlated with the group's level of difficulty. The correlation between this discrepancy and the difficulty of the task the group had just completed was -.31 ($\underline{p} < .005$) for all subjects; -.45 for teams in the Success condition and -.15 for those in the Fail condition. Thus, there was more similarity of view about

Table 8-2

Correlations of Difficulty of Group's Task and Individual Consequence-coping Responses

Query	All conditions (N=240)	Success condition (N=120	Fail condition (N=120)
1. Value of test[a]	.235*	.268*	.068
2. Validity of test[b]	.266*	.179*	.056
3. Impt. for team to succeed[c]	.236*	.063	.240*
4. How hard people try[d]	.314*	.075	.303*
5. Important for team to be skilled[e]	.231*	.134	.119
6. Degree of interest or involvement[f]	.296*	.173*	.171*

* $\underline{p} < .05$ or better

Exact wording of queries:

a. How valuable are tests like this for high school students like yourself? (Worthless - Very valuable)

b. In your opinion, how good is this test as a measure of your team's ability in Team Coordination Capacity? (Very poor - Excellent)

c. How important was it to you for your team to succeed in this test session? (Very unimportant - Very important)

d. How hard do you think people would usually try on a test like this? (Not at all - Would try very hard)

e. How important is it for groups to be good at the ability measured by this test, Team Coordination Capacity? (Very unimportant - Very important)

f. Please rate the degree of interest, or involvement, you felt while working on this test today (None at all - Very high) the appropriate group goal as the task attempted by the group was more difficult and the group was more successful.

In sum, group members evaluate their team better, approve of and approach its activities more, and agree among themselves about an appropriate group aspiration, the more their group is working on a difficult task rather than an easy one. It is consistent with these findings to note that members evaluate their group higher the smaller the discrepancy between aspirations proposed by a member and chosen by his group ($r = -.19$, $p < .05$). This correlation is stronger in the Success condition ($r = -.21$, $p < .05$) than in the Fail condition ($r = -.08$, n.s.).

Finally, we remark that signs of group problem solving, defined as suggestions made aloud by any member concerning ways of improving the group's method and performance, occurred somewhat more often in the Difficult condition (Mn. = 1.85 per trial) than in the Easy condition (Mn. = 1.22). The F value for the difference between these two means is 2.49 ($p < .10$).

Consequence-Coping, Individual and Group

Three of the consequence coping queries answered by individuals were subsequently discussed in the groups--a unanimous agreement among members on the appropriate answer to each query was required. These items are shown in Table 8-3. In that table the mean of the individual responses and the mean of the unanimously reached group decisions are compared. In general, there is little difference for the total experimental population in any condition or treatment on any of the queries. The mean of the individual responses was more favorable in Success than it was in Failure (an expected and familiar finding) and so was the mean of the group decisions.

Table 8-3

Mean of Members' Individual Coping Responses Compared with Group Decided Responses on Three Queries

	All conds.		Success		Fail		F tests		
	Ms' $\bar{X}$	Gp. dec.	Ms' $\bar{X}$	Gp. dec.	Ms' $\bar{X}$	Gp. dec.	Ms' $\bar{X}$ vs. Gp.dec.	Ms' $\bar{X}$ Succ. vs. Fail	Gp. dec. Succ. vs. Fail
Value of tests like this?[a]	4.63	4.12	4.95	4.62	4.31	3.62	n.s.	13.55***	7.78**
Validity of this test?[b]	4.87	4.76	5.44	5.67	4.29	3.85	n.s.	31.61****	26.12****
Importance for team to succeed?[c]	5.18	5.61	5.59	6.27	4.77	4.95	n.s.	11.88***	13.56***

** $p < .01$
*** $p < .001$

a, b, c.--see wording of queries in Table 8-2

Responses on the three queries were summed to form an index of consequence coping so that the mean amount of approach behavior could be determined for the individual responses and compared with the mean amount of approach in the group-decisions. The average difference between these two means for each experimental treatment is shown in Table 8-4. It can be seen that group-decided responses are significantly more favorable than individual ones in the Difficult condition and less favorable than individual ones in the Easy condition. The discrepancy between group-decided responses and individual responses was not significantly greater in the Success than in the Fail condition. Group decisions, compared to individual decisions, appear to be more approaching of Difficult tasks and more avoiding of Easy tasks.

Table 8-4

Discrepancy Between Group-Decided Responses on Index of Consequence-Coping Behavior and Mean of Members' Private Responses

	Difficult	Easy
Success	.25	-.48[a]
Fail	1.00	-1.34

Summary of analysis of variance for above means

Source	df	SS	Ms	F
Diff.-Easy	1	47.44	47.44	5.95*
Succ.-Fail	1	.07	.07	.01
Interaction	1	13.11	13.11	1.64
Within	76	605.96	7.97	--
Total	79	666.52	--	--

* $p < .025$

[a] Negative discrepancy implies group decision index was lower than mean of individual members, i.e., less approaching.

The amount of time each group devoted to oral discussion of the three consequence coping queries noted in Table 8-3 was observed. Groups in the Difficult condition took somewhat longer (Mn.=2.13 mins.) than those in the Easy condition (Mn.=1.66 mins.)(p of diff. < .10), suggesting that work on more difficult tasks created less unanimity about the appropriate coping group decision.

Instrumental Value of Coping Behavior

Among the queries used to measure tendencies toward consequence coping behavior in the private views of participants several different concerns are implicit, as can be seen in Table 8-5. The correlations among responses to these queries help us to make a judgment of the degree that there is a theme within these coping reactions.

The correlations displayed in Table 8-5 are, every one, statistically significant. No one type of response seems truly dominant in the sense that it correlates more highly with the rest than does any other. The closest to dominance is seen in response to the query about degree of interest or involvement in the task (top row) and the question about the perceived importance of the team's being good in the ability measured by the test (second row). The size of these correlations, we should add, is not much different in the Success and Fail conditions. Thus, it appears that no one of the items in the list represents a primary outlet in consequence-coping. Rather, all tend to vary together.

Table 8-5

Correlations Among Individual Member Responses on Consequence Coping Behavior

N=240

Variable	1	2	3	4	5	6	7
1. Interest in task	--	.38	.30	.42	.43	.47	.32
2. Impt. tm. ability	.38	--	.34	.25	.34	.35	.27
3. Impt. tm. succeed	.30	.34	--	.37	.18	.18	.19
4. How hard p. try	.42	.25	.37	--	.24	.28	.13
5. Value of tests	.43	.38	.18	.24	--	.34	.26
6. Validity of test	.47	.35	.18	.38	.34	--	.16
7. Liking of teammates	.32	.27	.19	.13	.26	.16	--

Discussion

The results of this study demonstrate that a set of persons can discuss their attitudes about a collective performance and can reach agreements which are on the whole quite similar to the average of their separate private attitudes. Thus, groups can make decisions about so-called consequence coping just as they make decisions about appropriate group aspirations (Chapters 2 and 4). Doubtless group discussion, when it appraises past performance by the group, contains agreements on issues similar to those in Table 8-3. The agreements once formed, moreover, may become group standards which endure.

Although individuals tend to have more favorable attitudes to the group's work as the difficulty of its task increases, we should note that group-decided attitudes are more approaching toward Difficult tasks and more avoiding of Easy tasks than are the private responses of the individuals in these same groups. Group discussion, seemingly, generates a desire for group success at more difficult levels. If approaching is taken to be an indicator of a motive to attain success and avoiding as an indicator of a motive to avoid failure, then what we have been designating as consequence coping might turn out to be signs of a positive or negative motive; that is, of a positive or negative desire for group achievement.

Successful achievement of more difficult group tasks appeared to generate similarity among members in their aspirations for the group, whereas failing on Easy tasks seemed to stimulate dissimilarity among members. These results are notable since in the Fail-Easy treatment groups changed their task level very little from one trial to another indicating that members were set to respond uniformly. The greatest dissimilarity of view among members resulted, apparently, in the least change in the group's aspiration level, and, incidentally, the greatest adherence to E's admonition to choose an easy task close to level four.

Two fairly weak findings are worthy of further attention in future research. They are that Difficult tasks, more than Easy ones, cause members to make more suggestions about the best procedures to follow and also cause members to take longer in deciding what view they hold in common about the task. More Difficult tasks apparently generate more signs of group problem solving behavior than do Easier tasks.

Summary

Eighty triads of high school boys engaged in a motor task requiring interdependent effort among members. Each team had four trials on what they perceived to be a Test of Team Coordination Capacity. Before each trial the members chose the level of difficulty, out of 13 alternative levels, on which they preferred their group to work. Half of the groups were induced to attempt fairly difficult levels and the other half to attempt fairly easy ones. Within each of the two conditions just mentioned, half of the teams consistently succeeded and half consistently failed, due to false information provided by the experimenter. Reactions to the experience, called consequence-coping behavior, were asked from members via private individual questionnaires. Following this, sets of members were asked to discuss and unanimously decidetheir joint views on three of the questions members had previously answered privately.

The major findings follow:

1. The largest changes in group aspirations from one trial to another occurred in the Easy-Success treatment and the smallest changes in the Easy-Fail treatment.

2. The more difficult the group's task, the more favorably members evaluated the group's performance regardless of whether it was a success or a failure.

3. The more difficult the group's task, the more members privately indicated tendencies to approach rather than to avoid the group's task.

4. The more difficult the group's task, the more separate members proposed similar aspirations for their group, particularly if their group had been succeeding in their chosen tasks.

5. Group-decided coping reactions were on the whole similar to the mean of the member's privately decided coping responses.

6. Groups, more than individuals, tended to approach difficult tasks and to avoid easy ones in their group-decided coping responses.

References

Atkinson, John. Motivational determinants of risk-taking behavior. _Psychol_. _Rev_., 1957, _64_, 359-72.